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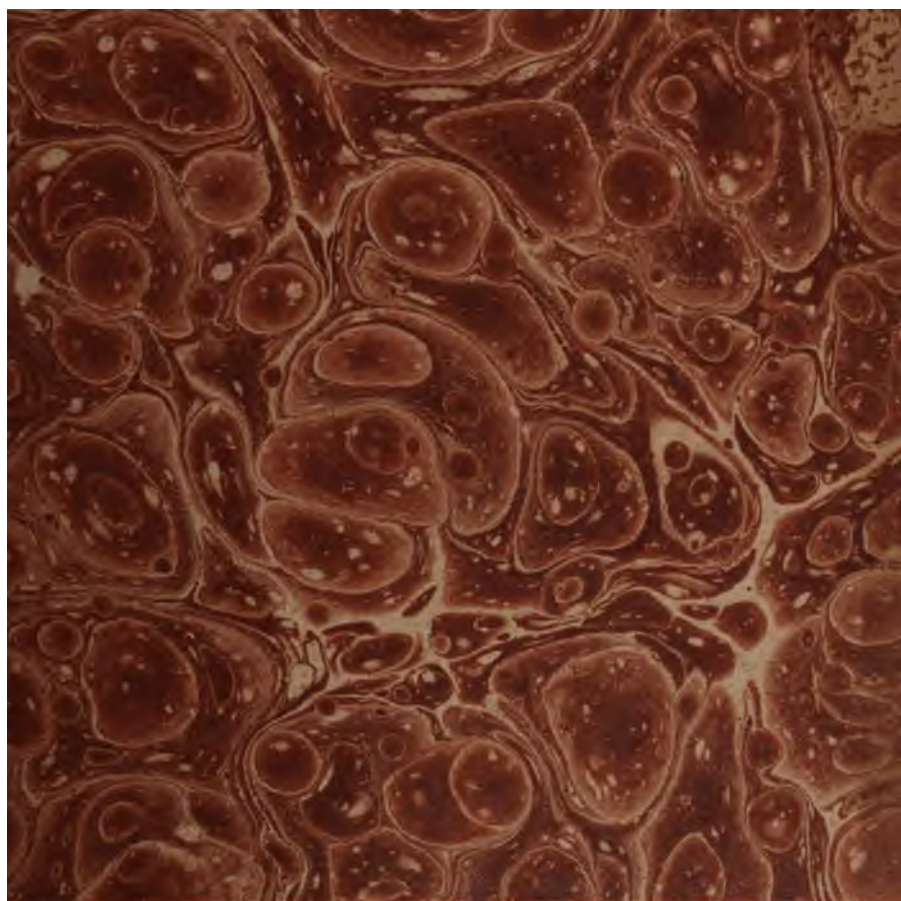
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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE
ACADEMIES OF STOCKHOLM, UPSAL, TURIN,
LISBON, LUND, BERLIN, PHILADELPHIA, AND
THE NAT. HIST. SOCIETY OF PARIS;
PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

—“VIRESCQUE ACQUIRIT EUNDO.”—*Virg.*

VOL. XIV.

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MDCCCII.

ENGLISH ROYALTY

CONSTITUTIONAL HISTORY

OF THE

BRITISH EMPIRE

AND THE

ROYALTY OF THE

UNITED KINGDOM OF GREAT BRITAIN

AND IRELAND

IN THE

SEVENTEENTH

CENTURY

BY



EQUISETUM sylvaticum.

Branched Wood Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Catkin* composed of peltate scales, flowering on their inside. *Partial calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Branches compound, curved downwards, rough.

SYN. *Equisetum sylvaticum*. Linn. *Sp. Pl.* 1516. Sm. *Fl. Brit.* 1102. Huds. 447. With. 753. Hull. 233. Lightf. 646. Relh. 403. Sibth. 263. Abbot. 221. Bolt. *Fil.* 60. t. 82, 33. Hedw. *Theor.* 33. t. 1. Rati *Syn.* 130. Ehrh. *Crypt.* 161.

β. *E. sylvaticum procumbens*, setis uno versu dispositis. Dill. in *Rati Syn.* 131.

THIS very elegant species occurs in moist shady places, often under dripping rocks, chiefly in the mountainous counties, fructifying in the early spring. Our specimen was gathered by Lady Wilson between Glasgow and Edinburgh.

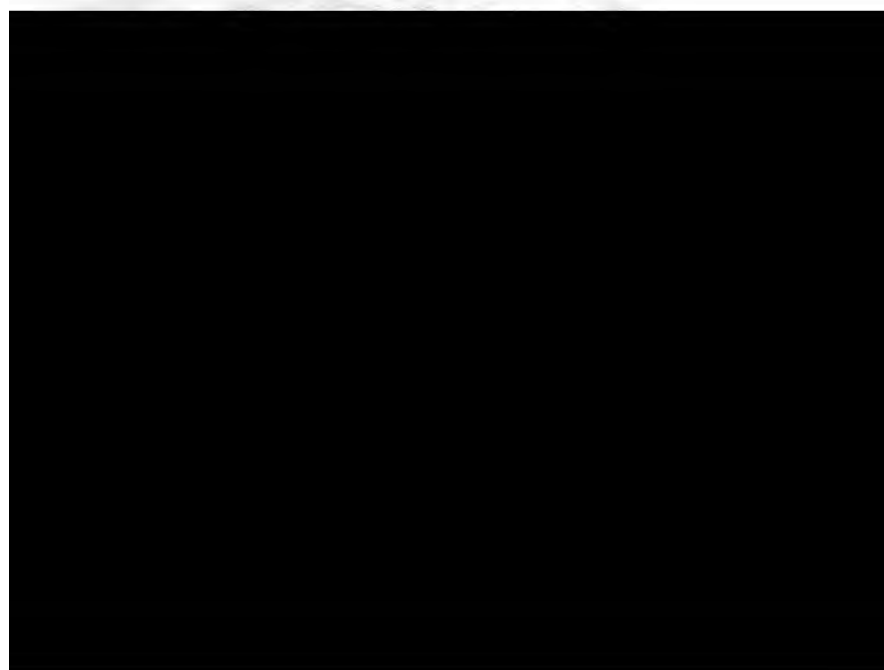
The whole plant conveys the idea of some Indian palm-tree, with its simple stem, and numerous whorls of compound, drooping, slender, roughish branches, crowned at the summit by a cone tessellated with peltate scales. Each of these scales is beset at its back with several bivalve partial calyxes, enfolding numerous minute seeds, (technically speaking) naked, that is, destitute of a seed-vessel, though each of them is enfolded with 4 spiral filaments, whose powdery summits are with great reason presumed by Hedwig to perform the office of anthers, as we have already mentioned, *p.* 915.

The root of this plant is perennial, the stems annual, 12 or 18 inches high. The branches are generally not pushed forth till the cone is nearly ripe.

1874



Specimen published by J. S. Lowry, London.



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EQUISETUM arvense.

Corn Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Catkin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Sterile stems branched in every direction; the branches roughish, with simple angles: flowering ones unbranched; their sheaths distant, with broad deep teeth.

SYN. *Equisetum arvense*. Linn. *Sp. Pl.* 1516. Sm. *Fl. Brit.* 1103. Huds. 447. With. 753. Hull. 233. Relh. 403. Sibth. 263. Abbot 222. Curt. Lond. fasc. 4. t. 64. Bolt. Fil. 62. t. 34.

E. arvense, longioribus setis. Raii *Syn.* 130.

β . *E. pratense*, longissimis setis. Dill. in Raii *Syn.* 131.

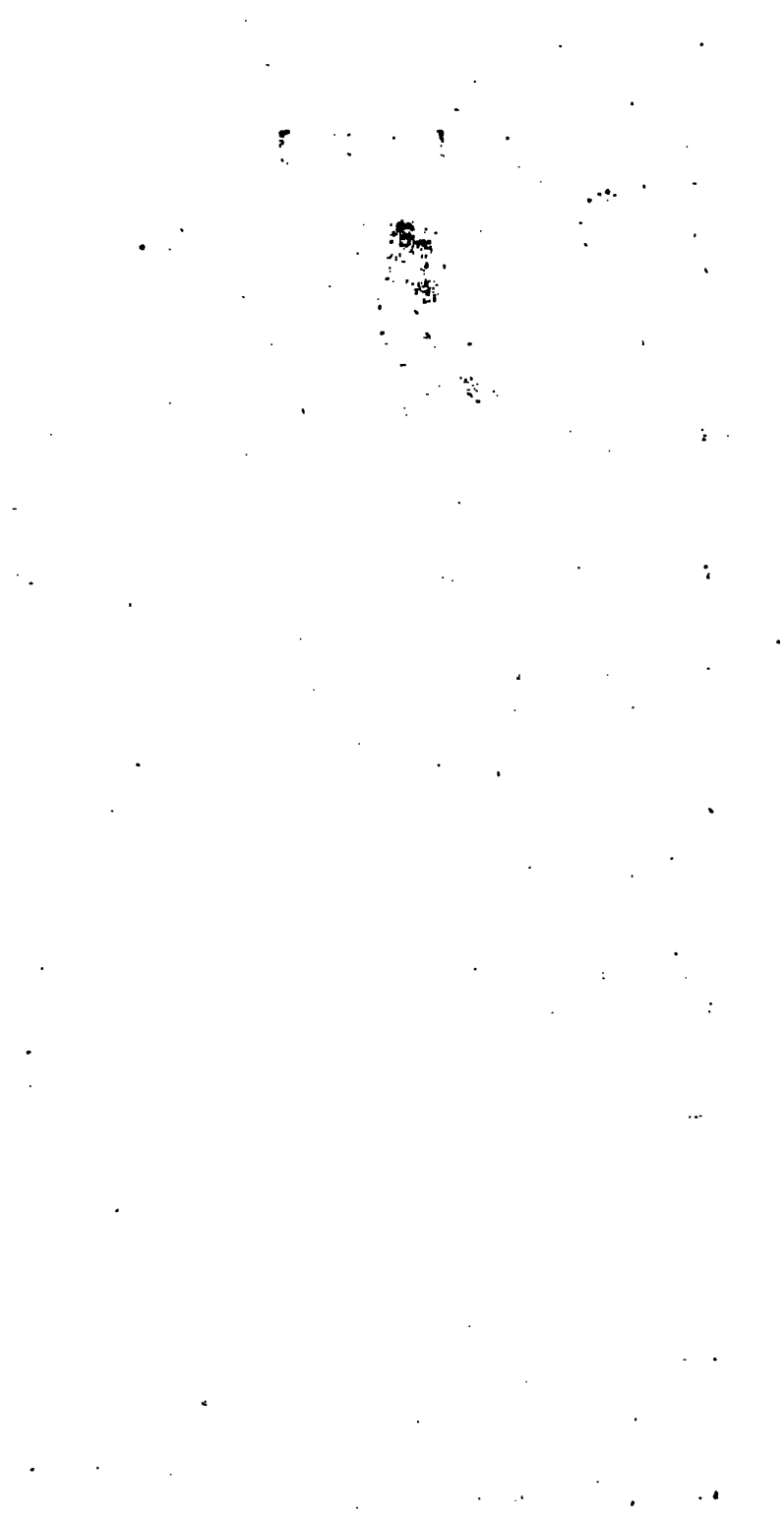
IN low moist cornfields very frequent, and according to Mr. Curtis, very troublesome to the farmer, as being difficult of extirpation, and noxious to cattle, especially kine. We presume its action on their intestines may be chiefly mechanical, considering the sharp rough angles and points with which its whole form abounds, and the abundance of flinty earth in its cuticle, which forms a file similar to, though finer than *E. hyemale*, t. 915.

The root is creeping and perennial. In April it throws up several simple, pale brown, smooth, juicy stems, a span high, each encompassed with about 4, rather distant, furrowed, brown-toothed sheaths, and bearing a terminal, upright, large, ovate-oblong, brown catkin. The sterile stems appear some time afterwards, and are much taller, jointed, furrowed, rough-edged, beset from top to bottom with numerous, whorled, simple, jointed branches, whose joints are deeply furrowed, and the intermediate angles or ridges are simple, one of them extending to the point of each tooth. The variety β is but a trifling one; see Bauhin's *Theatrum* 246.

The flowering stems of this plant were evidently mistaken for our *E. variegatum*, t. 1987, by Mr. Lawson. See Raii *Syn.* 130. n. 3.







EQUISETUM palustre.

Marsh Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Catkin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Stems deeply furrowed, branched; branches simple, erect, roughish, with simple angles. Catkin terminal.

SYN. *Equisetum palustre*. Linn. *Sp. Pl.* 1516. Sm. *Fl. Brit.* 1103. Huds. 448. With. 754. Hull. 233. Relh. 403. Sibth. 264. Abbot 222. Bolt. *Fil.* 64. t. 35. Raii *Syn.* 131. Ger. *em.* 1114.

β. E. palustre, tenuissimis et longissimis setis. Dill. in Raii *Syn.* 131.

γ. E. palustre minus polystachion. *Ibid.* t. 5. f. 3.

THIS grows in a black boggy soil not unfrequently, and is readily known from the last by its fructification terminating the leafy stems. The roots are perennial and creeping. Stem branched throughout, deeply furrowed, with prominent, roughish, intervening angles. Branches whorled, upright, various in length, simple, jointed, deeply furrowed, with simple intermediate angles, minutely granulated in the surface, but scarcely rough to the touch. Catkin terminal, solitary, blackish, cylindrical inclining to ovate; its scales at length becoming widely separated. Dillenius has delineated, from Buddle's herbarium, a variety in which many of the upper branches bear catkins, as well as the main stem.

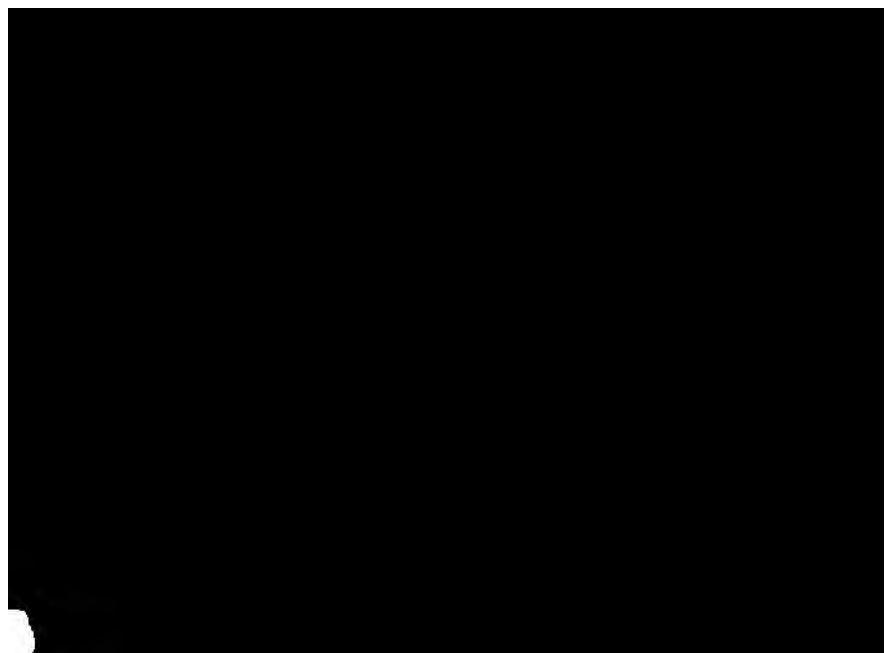
The branched state of *E. limosum*, t. 929, somewhat resembles this, but has a much thicker stem, with about twice the number of furrows, and those much more superficial than in the species we are describing.

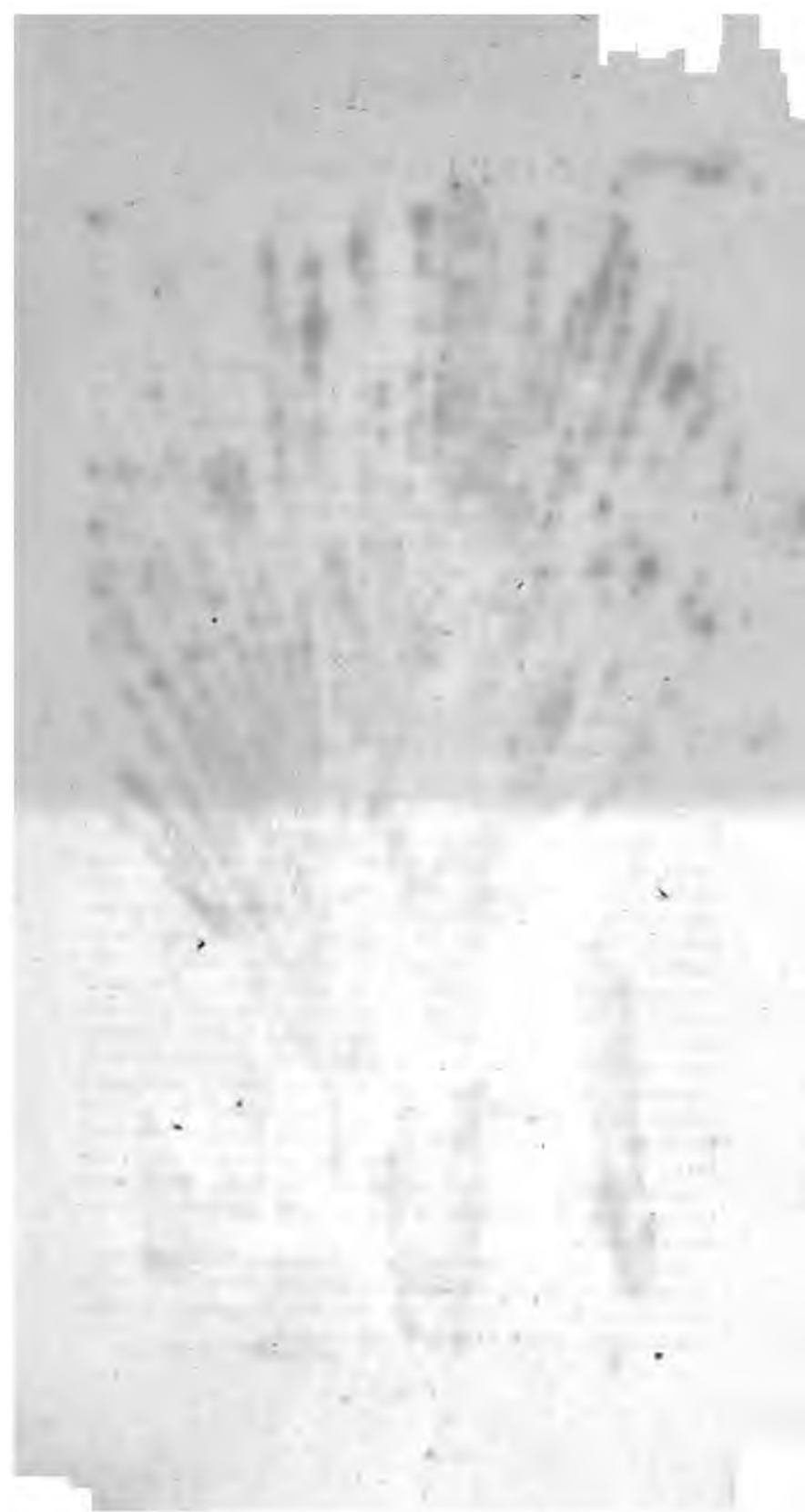


May 1853 Published by J. P. Taylor, London.

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EQUISETUM fluviatile.

Great Water Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Cathin* composed of peltate scales, flowering on their inside. *Partial Calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Sterile stems with innumerable roughish branches, whose angles are double: flowering ones unbranched; their sheaths not far distant, with numerous slender teeth.

SYN. *Equisetum fluviatile*. *Linn. Sp. Pl.* 1517. *Sm. Fl. Brit.* 1104. *Huds.* 448. *With.* 755. *Hull.* 233. *Relh.* 404. *Sibth.* 264. *Abbot* 222. *Bolt. Fil.* 66. t. 36, 37.

E. majus. Raii Syn. 130.

E. Telmateia. Ehrh. Crypt. n. 31.

FOUND here and there in watery places, about the sheltered banks of rivers and lakes, where its large long-branched stems, often 6 feet high, make a magnificent and Indian-like appearance. The flowering stalks come forth in April.



1811 1812 Published by J. Smiley London



EQUISETUM limosum.

Smooth Naked Horse-tail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Catkin* composed of peltate scales, flowering on their inside. *Partial calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Stem partly naked, smooth as well as the branches. *Catkin* terminal.

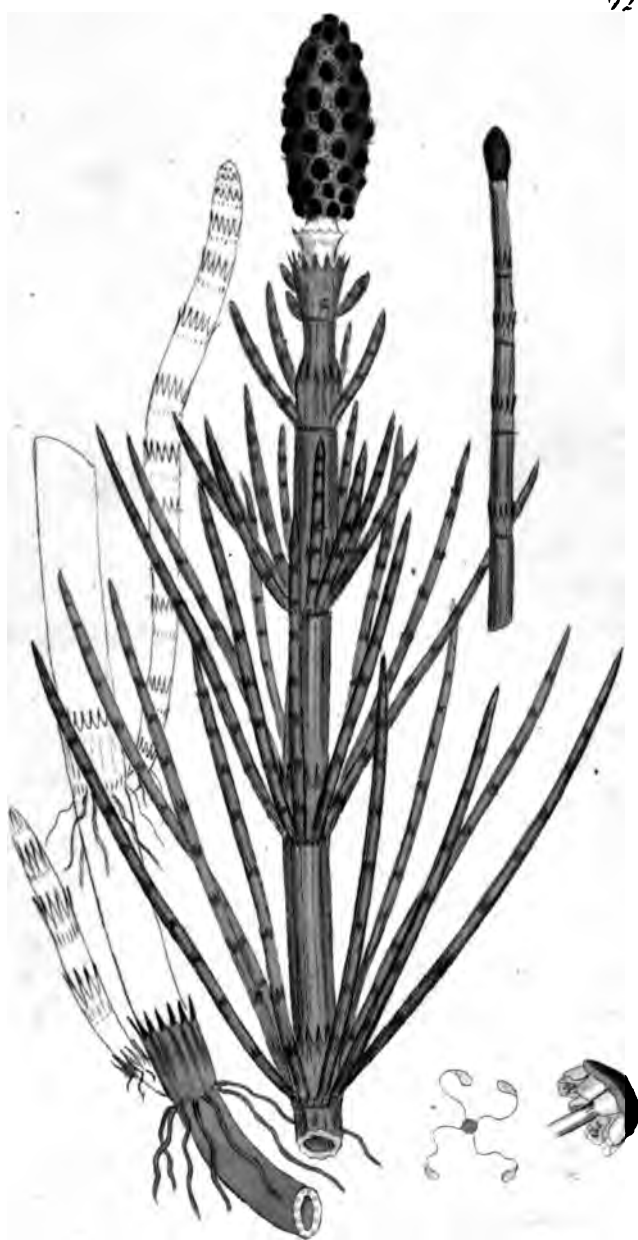
SYN. *Equisetum limosum*. Linn. Sp. Pl. 1517. Hudf. 448. With. 755. Hull. 234. Relb. 385. Sibth. 264. Abbot. 222. Bolt. Fil. 68. t. 38.

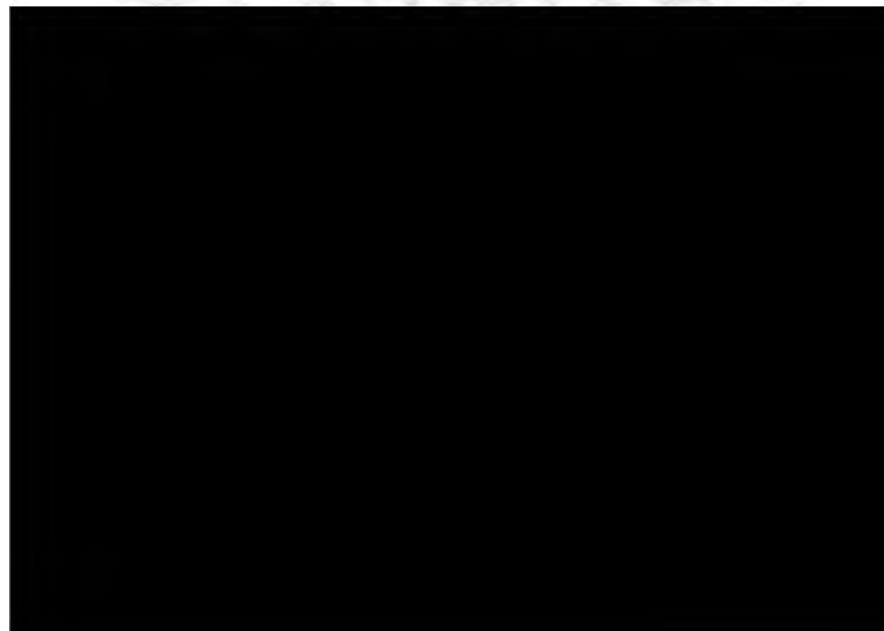
E. nudum lævius nostras. Raii Syn. 131. t. 5. f. 2.

ONE of the most common of its genus in watery marshy places, where it comes to perfection and fructifies early in June.

Root perennial, creeping. Stems erect, 2 feet high, jointed, furrowed, quite smooth to the touch, simple and quite naked in their lower part, but towards the top generally set with a few simple, erect, whorled branches, which are furrowed and smooth like the stem. The teeth of all the sheaths are a little blackish. *Catkin* solitary, terminal, large, ovate, brown, composed of many series of close-set scales, producing seeds as in *E. hyemale*, t. 915.

The *Equisetum* mentioned in Ray's Synopsis, 132, n. 12, appears to have been a specimen with more branches than usual. Many have confounded the plant before us with the *fluviatile* of Linnæus, who himself did not well understand their differences. The latter is a much larger plant, bearing its fructification on early simple stalks, as in *E. arvense*, while its principal stems are whorled from top to bottom with numerous very long spreading branches, and produce no catkins.





EQUISETUM hyemale.

Rough Horse-tail.

CRYPTOGAMIA *Filices.*

GEN. CHAR. *Catkin* composed of peltate scales, flowering on their inside. *Partial calyx* of 2 valves. *Seeds* numerous, naked, ensfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Stem naked, very rough, mostl; branched at the base. Sheaths whitish, black at the base and summit.

SYN. *Equisetum hyemale.* *Lin. Sp. Pl.* 1517. *Huds.* 448. *Witb.* 756. *Hull.* 234. *Lichtf.* 650. *Relb.* 385. *Abbot.* 222. *Bolt. Fil.* 70. t. 39.

E. nudum. *Raii Syn.* 131.

GATHERED near Rippon, Yorkshire, by Mr. W. Brunton junior of that place. Although generally esteemed a very rare plant, it is found, always indeed sparingly, in boggy woods and thickets in several parts of Britain.

The roots are perennial, black, creeping. Stems erect, simple, except at the base, naked, round, jointed, hollow, furrowed, rough, each joint encircled with a membranous, short,





Aug. 1. 1841. Published by J. S. Sowerby, London.





EQUISETUM variegatum.
Variegated Rough Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. Catkin composed of peltate scales, flowering on their inside. *Partial calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Stem naked, very rough, branched at the base. Sheaths black, with white, membranous, lanceolate teeth. Catkin terminal.

SYN. Equisetum variegatum. *Schleich. Catal.* 21.

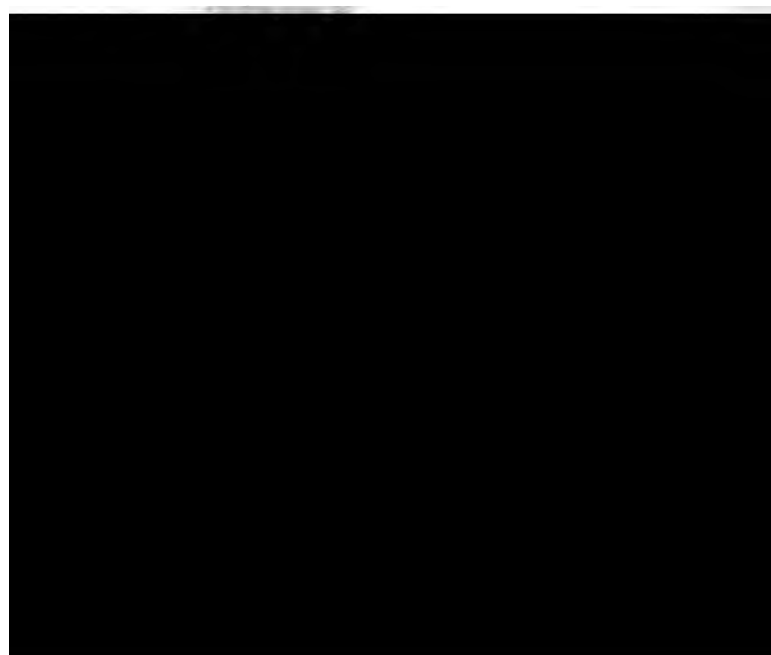
E. campanulatum. *Poiret in Lam. Encycl. v. 5.* 613.

E. nudum minus variegatum basileense. *Bauh. Pin.* 16. *Prodr.* 24. *Theatr.* 250.

E. n. 1678. *Hall. Hist. v. 3.* 3.

FOR the discovery of this very distinct species of *Equisetum* in Britain, we are obliged to Mr. G. Don, who gathered it, in July 1807, on the sands of Barry on the sea coast of Angushire. It is preserved in Jacquin's herbarium, which now makes a part of Sir J. Banks's rich collection, by the apt name of *variegatum*, a name peculiarly eligible, as adopted from the synonym of C. Bauhin, the first discoverer of this plant, and as being that by which it is known in Switzerland. There is a Swedish specimen in the Linnæan herbarium, confounded with *hyemale*, t. 913, and in the *Fl. Suec.* it is not distinguished as even a variety, though both appear to grow in Sweden.

The root is perennial, black, creeping, with very woolly fibres. Stems from 4 to 6 inches high, slender, deeply furrowed, rough like those of *E. hyemale*; in our plants decumbent or ascending, and zigzag, in Swiss ones erect and straight. This difference we conceive to arise from the different places of growth, as in *Carex incurva*, t. 927, and *juncifolia* of Al-lioni, erroneously separated by some botanists. Each joint is encircled with a little short black cup-like sheath, crowned with a row of lanceolate white membranous teeth, by which the species is evidently distinguished from *hyemale*. The uppermost sheath is very much larger than the rest. Catkin short, ovate, blacker than in the *hyemale*, and on a more slender stalk.



OPHIOGLOSSUM vulgatum.

Adder's Tongue.

CRYPTOGAMIA Filices.

GEN. CHAR. *Capsules* numerous, connected in a two-ranked spike by an enveloping membrane, roundish, bursting transversely, destitute of a ring. *Seeds* many, very minute.

SPEC. CHAR. Leaf ovate, without veins, bearing the spike.

SYN. *Ophioglossum vulgatum*. Linn. *Sp. Pl.* 1518. Hudf. *Fl. An.* 449. *Witb. Bot. Arr.* v. 3. 45. *Relb. Cant.* 386.

Ophioglossum. *Raii Syn.* 128.

HERE we have another vulnerary, which Ray says "is excellent, either taken internally or applied outwardly;" and that "an infusion of its leaves in olive oil is famous for curing wounds and ulcers. The powder is good for ruptures." Gerarde remarks, that the above oil is of so beautiful a green, many have supposed it made of verdegris. It is at present out of use, though astringent and tonic; the shops abounding with much better medicines of that description.

This singular vegetable is by no means very uncommon in boggy meadows, and is to be found in perfection about May, or not later than June. Mr. B. M. Forster favoured us with this specimen from a field at Walthamstow. The whole herb is succulent and very smooth. Roots of a few simple fibres like those of the *Orchis* tribe, from whose point of union arises a simple stem, with one or more buds for the next year. The spike, generally simple, is very rarely found cloven more or less deeply. When ripe it splits transversely on each side into numerous little portions, from whose interstices the seeds are discharged, the capsular valves being imbedded in the portions of the spike.

The genus has little connexion with ferns, except through the medium of the true *Osmundas*—see Dr. Stokes's excellent remarks in the third volume of *Bot. Arr.* p. 46, &c. The Linnaean term *frons* cannot without violence be used in the genus of *Ophioglossum*, as there is no necessary connexion between the leaf and fructification, one species, *O. nudicaule*, if not more, having them on distinct stalks.



Orchis latifolia L.



OSMUNDA Lunaria.

Moonwort.

CRYPTOGAMIA Filices.

GEN. CHAR. Capsules naked, globose, two-valved.

SPEC. CHAR. Stalk on the stem, solitary. Frond pinnate, solitary.

SYN. Osmunda Lunaria. *Linn. Sp. Pl.* 1519. *Huds.*

Fl. An. 449. *With. Bot. Arr.* vol. 3. 46. *Relh.*

Cant. 386. *Sibth. Ox.* 266.

Lunaria minor. *Raii Syn.* 128.

IN plate 209 of the present publication we exhibited the other only true British species of *Osmunda* (for *O. Spicant.* is a *Blechnum*, and *O. crispa* a *Pteris*), and we then promised to give the fructification in a future plate. All we know of that part is the capsule, consisting of a small globe, separating into two equal hemispheres, without any ring or bandage, and containing innumerable seeds like fine dust.

The Moonwort, so called from an obscure crescent-like shape in its leaves, is by no means a common plant; it grows in both moist and dry pastures, among grass, and arrives at perfection the end of June or early in July. Mrs. Kett of Seething favoured us with this specimen from a meadow near her house.

The root consists of thick fibres, from which arises one simple stem, or (as analogy requires it to be called) a frond, composed of a pinnate notched leaf, and a branching spike of capsules. Every part is smooth, but not polished, of a pale green, the capsules turning to a yellowish brown as they ripen. Sometimes the leaf is bipinnate, but that variety is rare.



April 1796 Published by J. Bouverie London





OSMUNDA regalis.
Osmond royal, or Flowering Fern.

CRYPTOGAMIA Filices,—*spicatae*.

GEN. CHAR. *Capsules* naked, globose, two-valved.

SPEC. CHAR. Frond bipinnate, terminating in a compound cluster of fructification.

SYN. *Osmunda regalis*. *Linn. Sp. Pl.* 1521. *Huds. Fl. An.* 449. *Willd. Bot. Arr. v.* 3. 47.

Filix ramosa non dentata florida. *Raii Syn.* 125.

OSMUNDA belongs to that tribe of ferns whose fructification, instead of being borne on the back of the frond, is produced by a metamorphosis, as it were, of the leaf itself; neither are the capsules bound with a ring, as in most of the dorsiferous ferns. See an excellent note of Dr. Stokes's *Bot. Arr. v.* 3. 46. and Dr. Smith's paper *de filicum generibus dorsiferarum*, in the 5th vol. of the *Memoirs of the Turin Acad.* p. 147.

The species before us occurs here and there in watery shady meadows and spongy bogs, making a conspicuous figure with its clusters of fructification in July or August. Its root is large

and woody: a decoction or extract of which is esteemed in



Adiantum latifolium L. f. *Adiantum latifolium*



LYCOPODIUM clavatum.

*Common Club-moss.*CRYPTOGAMIA *Msellana.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves scattered, terminating in threads. Spikes cylindrical, on footstalks, about two together.

SYN. *Lycopodium clavatum.* *Linn. Sp. Pl.* 1564.
Huds. Fl. An. 462. *Witb. Bot. Arr.* v. 3. 68.
Relb. Cant. 393. *Sibth. Oxon.* 265.

Lycopodium. *Raii Syn.* 107.

L. vulgare pilosum, amfragosum et repens. *Dill. Musc.* 441. *t.* 58. *f.* 1.

COMMON on mountainous heaths, especially in the North. The branched stem creeps close to the ground to a great extent, throwing out a strong branched white perennial root at the distance of every two or three inches. The leaves are crowded thick together, entirely covering the stem, all curved upwards from the ground, lanceolate, finely serrated, tipped with a white filament. Flowering branches erect, solitary,





LYCOPODIUM Selaginoides.

Prickly Club-Moss.

CRYPTOGAMIA Filices, exannulatae.

GEN. CHAR. *Capsules* axillary, solitary, of 2 valves, naked, somewhat kidney-shaped, compressed.

SPEC. CHAR. Leaves scattered, ciliated, lanceolate; the floral ones larger and more spreading.

SYN. *Lycopodium Selaginoides*. *Linn. Sp. Pl.* 1565. *Huds.* 463. *With.* 757. *Hull.* 236. *Dicks. Dr. Pl.* 90. *H. Sicc. fasc.* 7. 19.

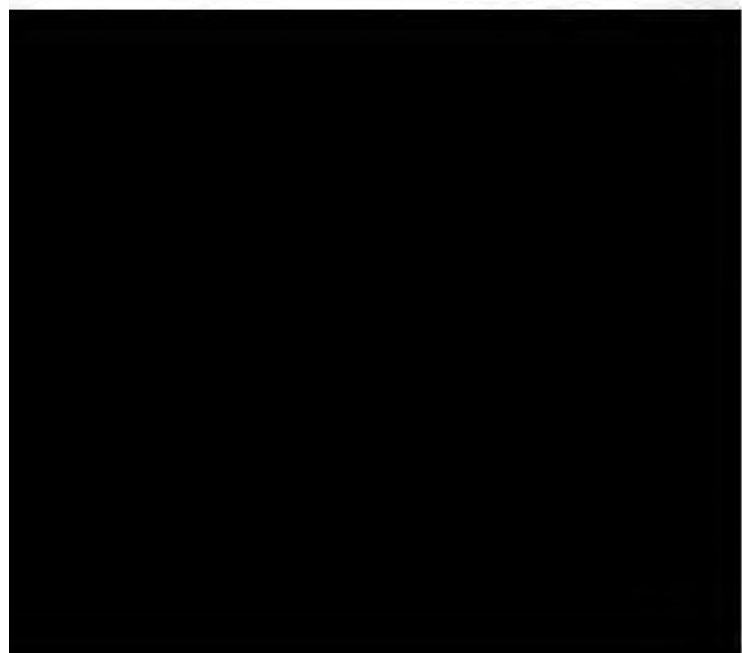
Selaginoides foliis spinosis. *Raii Syn.* 106. *Dill. Musc.* 460. *t.* 68.

BLACK boggy spots watered with small alpine rills, in the most mountainous parts of Great Britain, produce this rare species of Club-moss, which ripens its fruit in August and September. We have gathered it on the tops of hills in Westmoreland and Scotland, and have received it from near Middleton in Teesdale, by favour of the Rev. Mr. Harriman, Mr. Oliver and Mr. Robson.

The roots are small, fibrous and perennial. Stems much branched, spreading, weak and slender below; the branches erect, leafy, cylindrical, obtuse; those which bear fructification longer and stouter than the others. Leaves of a bright grass green, shining, imbricated, lanceolate, fringed with minute teeth: those in whose bosoms the fruit is lodged are larger, yellowish, and more spreading. The capsules differ a little from the rest of the genus, being rounder, and containing each four round white large seeds, to whose shape as they stand, one on the other three, the valves of the capsule exactly conform. In the upper part of each spike Mr. Sowerby has found kidney-shaped capsules full of fine dust, like the fruit of the other species, which might be taken for antheræ, were it not contrary to all analogy in this tribe. We rather suppose them to be young or abortive fruit.



Agave *Agave* *Agave* *Agave* *Agave*



LYCOPODIUM inundatum.

Marsh Club-moss.

CRYPTOGAMIA *Miscellaneæ.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves scattered, entire. Spikes terminal, leafy.

SYN. *Lycopodium inundatum.* *Linn. Sp. Pl.* 1565. *Huds. Fl. An.* 463. *With. Bot. Arr.* v. 3. 69. *Relb. Cant.* 393.

L. palustre repens, clava singulari. *Dill. Musc.* 452. t. 62. f. 7.

Muscus terrestris repens, clavis singularibus foliosis erectis. *Raii Syn.* 108.

ONE of our less common species of Club-moss. It may however be met with on the wet part of turfy bogs, especially on a sandy bottom, as Bagshot Heath, and St. Faith's bogs





LYCOPODIUM Selago.

Fir Club-moss.

CRYPTOGAMIA *Miscellaneous.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves scattered, in eight series. *Stems* forked, erect, branches equal at the top. *Flowers* scattered.

SYN. *Lycopodium Selago.* *Linn. Sp. Pl.* 1565. *Hudf. Fl. An.* 463. *With. Bot. Arr. v.* 3. 70. *Sibth. Oxon.* 265.

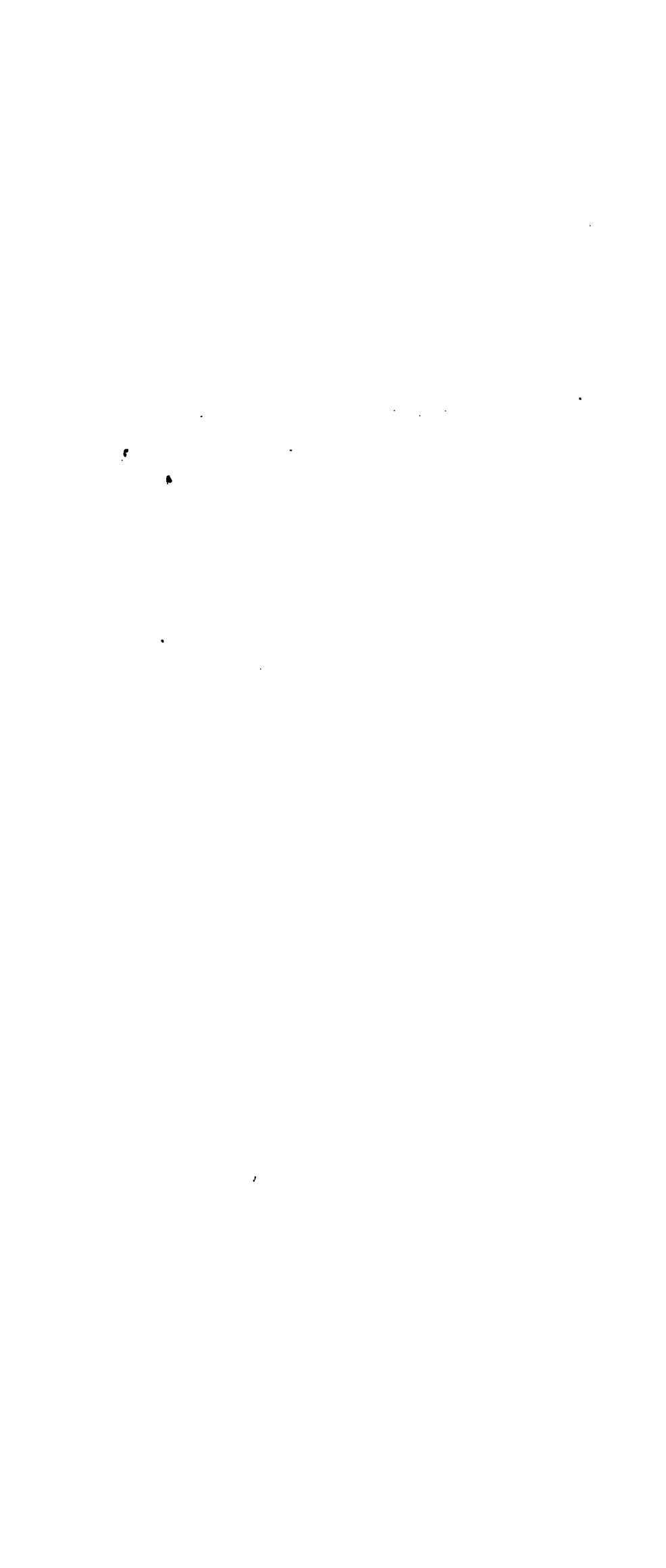
Selago foliis et facie Abietis. *Raii Syn.* 106.

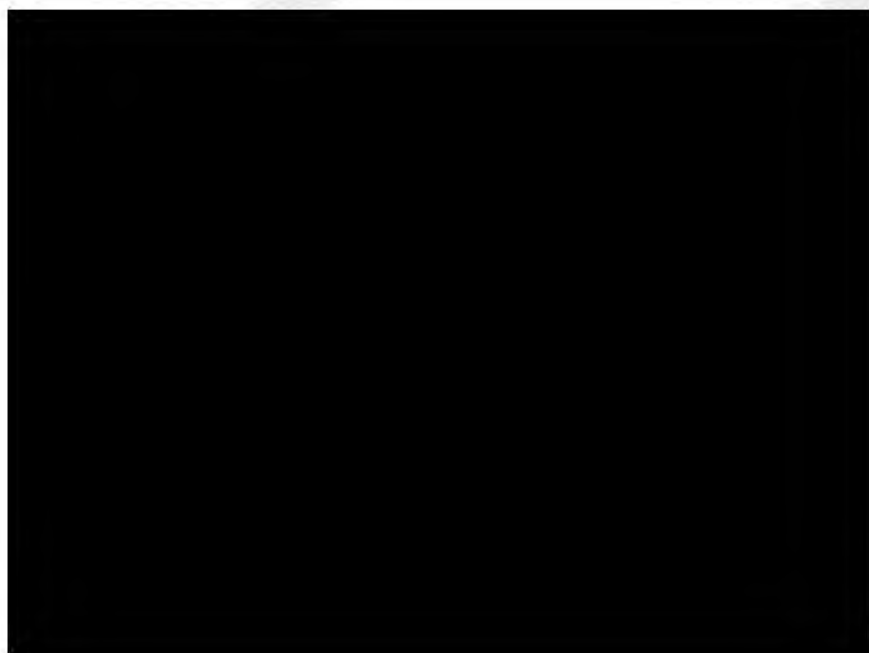
S. vulgaris, Abietis rubræ facie. *Dill. Musc.* 435. *t.* 56. *f.* 1.

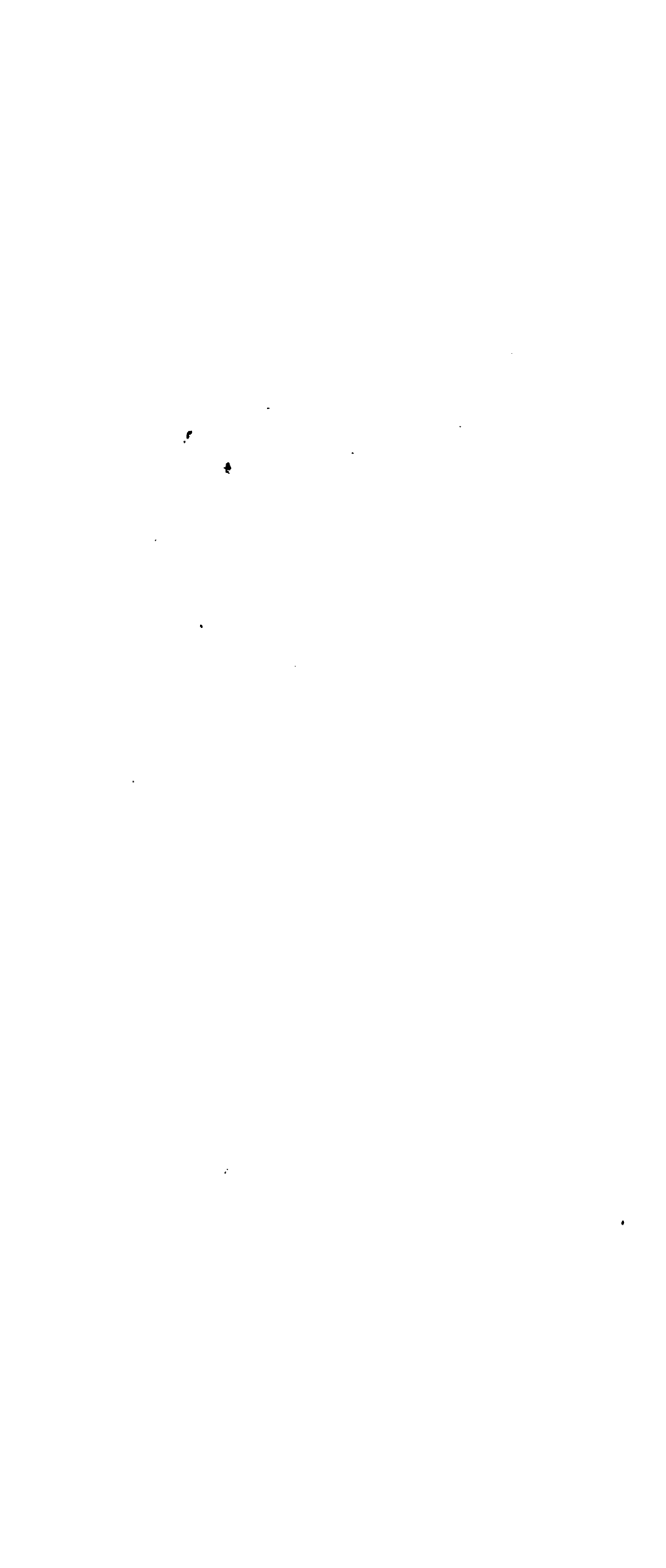
THIS kind of Club-moss is by far less common than that we have already figured, *t.* 224, except about the clefts of rocks in mountainous woods, and on heaths in Wales and the north of England, where it abounds; and it has even been found











[1727]

LYCOPODIUM annotinum.

Interrupted Club-moss.

CRYPTOGAMIA Filices.

GEN. CHAR. Capsules axillary, solitary, of 2 valves, naked, somewhat kidney-shaped, compressed.

SPEC. CHAR. Leaves scattered, slightly serrated, naked-pointed, spreading in five rows; the floral ones short and broad. Flowering-branches annually proliferous at the summit.

SYN. *Lycopodium annotinum.* Linn. *Sp. Pl.* 1566. *Sm. Fl. Brit.* 1111. *Huds.* 464. *With.* 759. *Hull.* 236. *Lightf.* 689. *Ehrh. Crypt.* 62.

L. elatius juniperinum, clavis singularibus, sine pediculis. *Dill. Musc.* 455. *t.* 63. *f.* 9. *Raii Syn.* 107.

A NATIVE of the Scottish and Welch mountains, but it is the least general of our alpine species of *Lycopodium*.

The plant is perennial and evergreen, bearing fructification in the summer. Stems creeping, leafy, rigid and tough; their flowering branches erect, forked, a span high, extending themselves annually at the summit, being proliferous in the sense used by Linnæus in *Philosophia Botanica*, p. 40. A contraction in the size of the leaves at the base of each annual shoot, gives the whole branch a jointed appearance characteristic of the species. The leaves are irregularly placed, but crowded, spreading in 5 directions; their form lanceolate, flat, obscurely serrated, sharp, but without any hair at the point; the floral ones are dilated, shortened, membranous, undulated, yellowish, closely imbricated, forming an obtuse spike. Capsules kidney-shaped.—Whether the whole spike is deciduous, or whether its main stalk remains, and bears leaves the year after flowering, we have no means of determining without an inspection of the growing plant in autumn, but we are inclined to believe the latter.

1727



LYCOPODIUM alpinum.

Alpine Club-moss.

CRYPTOGAMIA *Miscellanea.*

GEN. CHAR. *Capsules* axillary, solitary, naked, kidney-shaped, of two elastic valves and one cell. *Seeds* numerous, minute.

SPEC. CHAR. Leaves acute, imbricated in four rows. Shoots erect, cloven. Spikes sessile, cylindrical.

SYN. *Lycopodium alpinum.* *Linn. Sp. Pl.* 1567. *Huds. Fl. An.* 464. *Witb. Bot. Arr.* v. 3. 70. *Dickf. Dr. Plants,* 46.

L. *Sabinæ facie.* *Raii Syn.* 108. *Dill. Musc.* 445. t. 58. f. 2.

AN inhabitant of several high mountains of the north of England, Scotland and Wales, communicated to us by Mr. Robson of Darlington.

The stems are round, leafy, strong and woody, prostrate,





Adiantum species





POLYPODIUM vulgare.

Common Polypody.

CRYPTOGAMIA Filices, annulatæ.

GEN. CHAR. *Fruifications* scattered, in roundish dots not marginal. *Involucrum* none.

SPEC. CHAR. Frond pinnatifid: lobes oblong, somewhat serrated, obtuse. Root scaly.

SYN. Polypodium vulgare. Linn. Sp. Pl. 1544
Huds. 455. With. 773. Hull. 236. Relb. 409
Sibth. 269. Abbot. 226. Curt. Lond. fasc. 1
t. 68. Woodw. Suppl. t. 271. Bolt. Fil. 32
t. 18.

Polypodium. Raii Syn. 117.

VERY frequent on the tops of walls, old thatched roofs, shady banks, and the mossy trunks of rotten trees. The fructification is plentiful from the beginning of summer till the plants are destroyed in the course of the winter.

Root perennial, creeping, twisted, thickly clothed with lanceolate brown shining scales; its fibres woolly, of a shining brown. Fronds from 6 to 12 inches high, erect, stalked lanceolate, acute, deeply pinnatifid, smooth; the lobes linear oblong, bluntish, sometimes entire, but most generally crenate or serrated, rarely lobed. Spots arranged in a simple series on each side the rib of each lobe, at nearly an equal distance between that and the edge, round, of a yellow brown convex, larger than in most ferns, perfectly naked or destitute of an involucrum. Every spot consists of numerous stalked round pale capsules, each encompassed with a brownish jointed ring. Tournefort most unaccountably denies the existence of this ring; and Adanson, though a professed reformer, follows him.

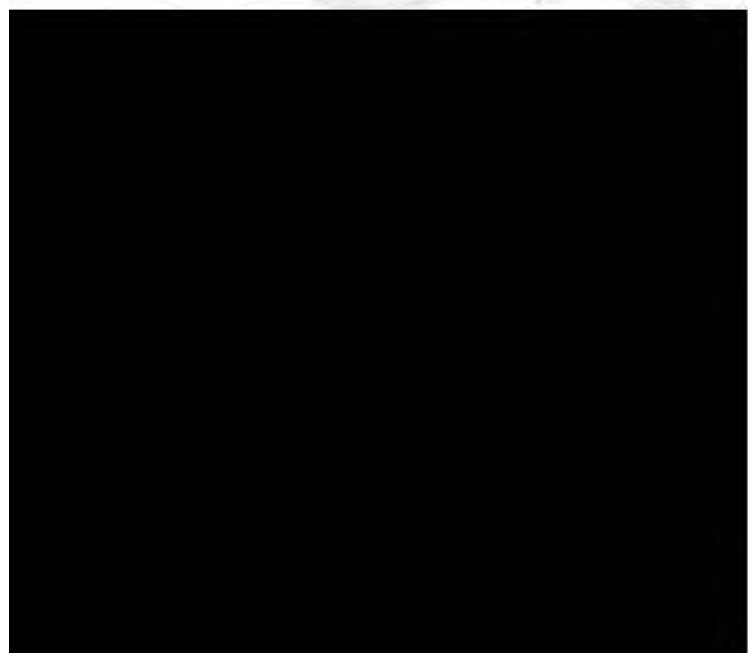
We now agree with Dr. Swartz in separating from this real genus of *Polypodium* such species as have an involucrum, by the name of *Aspidium*. Of the ferns already figured in this work, t. 1018 and 1019 belong to the latter genus, and t. 610 to the former.

The medical virtues of the Common Polypody are not enough to make it worth inquiring whether that of the oak, or that of any wall or cottage, be most endowed with them.

P. cambricum is a barren laciniated variety of this.



Apr 1 1853 Published by J. Sowerby London.



[2023]

POLYPODIUM hyperboreum.

Hairy Alpine Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fractifications* scattered, in roundish dots, not marginal. *Involucrum* none.

SPEC. CHAR. Frond lanceolate, bluntish, pinnated: leaflets heart-shaped, pinnatifid, hairy on both sides: lobes rounded, waved.

SYN. Polypodium hyperboreum. *Sw. Fil.* 39.

P. arvonicum. *With.* 774. *Sm. Fl. Brit.* 1115. *Hull.* 238. *Syn.* 191.

P. ilvense. *With.* 774. *Hull.* 237.

Acrostichum hyperboreum. *Liljeblad in Stockh. Tr.* for 1793. 201. t. 8.

A. ilvense. *Huds.* 451. *Dicks. H. Sicc. fasc.* 8. 17; but not of Linnæus.

A. alpinum. *Bolt. Fil.* 76. t. 42.

Filix alpina, pedicularis rubræ foliis subtus villosis. *Raii Syn.* 118.

SENT from Ben Lawers by Mr. G. Don, who informs us it is rare in Scotland, growing out of the fissures of alpine rocks, and often not above an inch high. Mr. Dickson gathered it on the same mountain. But the place where it was originally observed in Ray's time, and still grows, is on a moist black rock on Snowdon, almost at the top of the point called Clogwyn y Garnedh, looking North West. It is in perfection in July.

The root is black and tufted. Fronds from 1 to 3 inches high, linear-lanceolate, bluntish, clothed with tawny hairs, and composed of numerous, nearly opposite, sessile, short, heart-shaped, rounded, pinnatifid leaflets, whose segments are rounded and waved, without any terminal prickles or bristles. Masses of capsules red-brown, hairy, numerous, at length often confluent. This is very distinct from the real *Acrostichum ilvense*. Withering, who describes it twice over, has given the name adopted in *Fl. Brit.*, but although Mr. Liljeblad be wrong as to the genus, we gladly concur with Professor Swartz in preferring his of *hyperboreum*, as of a prior date and far more eligible in itself.



Printed and published by J. Kew, London.



POLYPODIUM Phegopteris.

Pale Mountain Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* none.

SPEC. CHAR. Frond pinnated: leaflets lanceolate, pointed, pinnatifid, united at their base; the lower pair reflexed.

SYN. Polypodium Phegopteris. *Linn. Sp. Pl.* 1550. *Sm. Fl. Brit.* 1116. *Huds.* 456. *With.* 775. *Hull.* 238. *Lightf.* 669. *Winch. v. 1.* 95. *Bolt. Fil.* 36. *t. 20.* *Ehrh. Crypt.* 131.

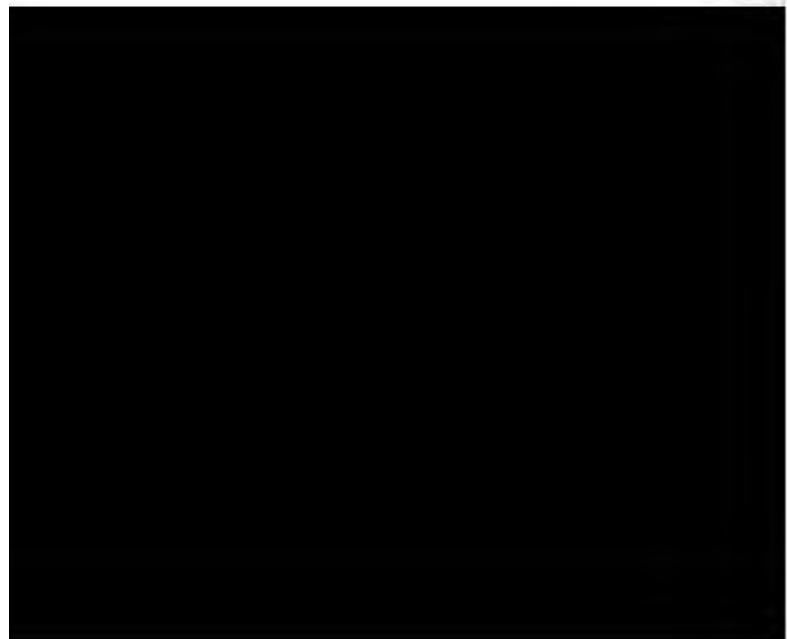
P. n. 1698. *Hall. Hist. v. 3.* 12.

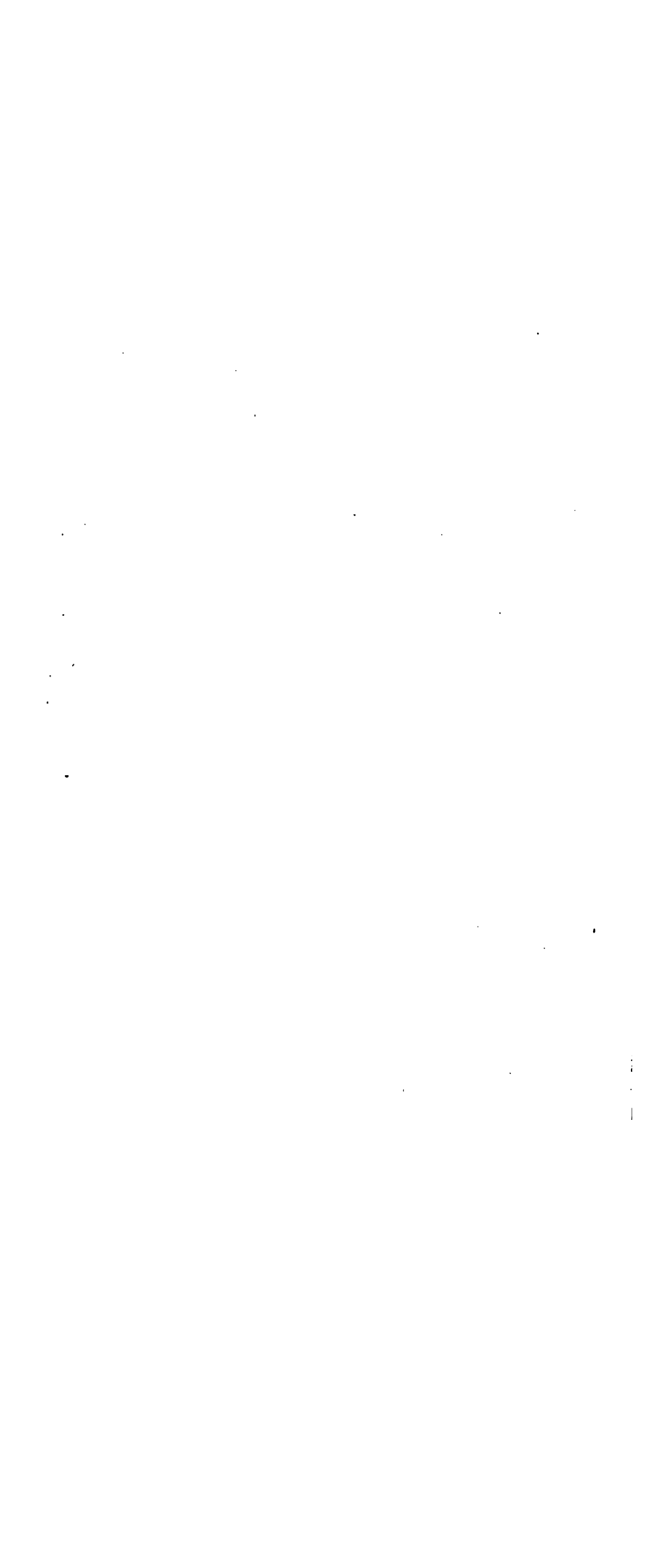
Filix minor britannica, pediculo pallidior, alis inferioribus deorsum spectantibus. *Dill. in Raii Syn.* 122.

STONY rather moist places, on mountains in the south of Scotland and north of England, produce this delicate fern; but it is certainly not, as its Greek specific name imports, a native of our Beech woods, at least not of those of the midland counties. We have gathered it in Westmoreland, not only in the shade, but sometimes on open stony moors, where it cannot fail to attract the notice of a botanist by its upright position, pale delicate aspect, whitish stalk, and especially the dependent posture of the two lowermost leaflets or wings. Very rarely it grows in considerable patches, more frequently scattered, having a creeping root. Each plant is about a foot, or more, in height, with a very long, slender, naked, smooth, brittle stalk. Principal pinnatifid leaflets about ten pair, not exactly opposite, though sessile and slightly united at their base, and yet not decurrent. They join about as many simple, gradually shorter, and finally entire ones, above them, surmounted by a taper point. All are fringed and besprinkled with pale soft hairs on both sides, which are often clustered, somewhat stellate, on the rib at the back. The capsules form little round naked yellowish dots, about the lower part of the edges of the segments.



Adiantum petiolatum L.





POLYPODIUM Dryopteris.

Three-branched Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond three-branched: branches bipinnate, the lobes bluntish and toothed.

SYN. Polypodium Dryopteris. *Linn. Sp. Pl.* 1555. *Huds.* 460. *With.* 780. *Hull.* 240. *Dicks. Dr. Pl.* 16. *Filix ramosa minor. Raii Syn.* 125.

SENT from Staffordshire by the Rev. Thomas Gisborne, the same gentleman to whom we were obliged for *Epimedium alpinum*. This elegant fern is found only in stony parts of the more mountainous counties. The variety we have here figured is



616





POLYPODIUM calcareum.
Rigid Three-branched Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* none.

SPEC. CHAR. Frond three-branched: branches bipinnate, erect, somewhat rigid, the lobes bluntish and slightly notched. Dots of seeds confluent.

SYN. *Polypodium calcareum*. *Sm. Fl. Brit.* 1117.

P. Dryopteris. *Dicks. Dr. Pl.* 16. *Bolt. Fil.* 53. t. 1.

Dryopteris Tragi. *Ger. em.* 1135.

GATHERED on the 27th of last June at Matlock bath, Derbyshire. It grows copiously among grass and bushes on the crumbling calcareous stone, or *tufa*, deposited, in the lapse of ages, by the Matlock water, and in removing a large bed of which, before Saxton's Lodging-house, the skeleton of a large animal of the Deer kind was lately found. See *Pennant's Brit. Zool. ed. 4. v. 1. 52.*

I never observed this species in any other place, nor was I for some time convinced of its being distinct from *P. Dryopteris* figured in our 9th vol. t. 616. I am still uncertain whether the synonyms of any of the more accurate cryptogamists of Germany belong to it.

The root is, of course, perennial, and creeps like that of *P. Dryopteris*, but is thicker and commonly shorter. The base of the stem is scaly, not smooth, and the whole frond is firmer and more rigid, the three principal branches generally smaller, nearly erect, and by no means flaccid or loosely pendent. The young capsules are pale, without any involucre; when ripe they become brown or black, and run together, covering the whole back of the leaf, whereas those of *P. Dryopteris* remain in distinct dots.



1841-1842. Published by J. C. Sowerby, London.





Polypodium POLYPODIUM Lonchitis.

Rough Alpine Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond simply pinnate; leaflets crescent-shaped, bent downwards, bristly-ferrated. Stalks scaly.

SYN. *Polypodium Lonchitis*. *Linn. Sp. Pl.* 1548. *Huds.* 455. *Witb.* 773. *Hull.* 237. *Lightf.* 668. *Lonchitis aspera* major. *Raii Syn.* 118.

A NATIVE of high rocky mountains, sent us from Durham by the Rev. Mr. Harriman. It has also been found in Wales and Scotland, but is confined to alpine situations.

The fronds grow in tufts, upright, 8 or 10 inches high, of a narrow lanceolate figure, rigid and harsh, composed of numerous alternate sessile simple *pinnæ* or leaflets, which are bent a little downwards, and are of a lanceolate somewhat crescent-shaped figure, acute, fringed with bristly ferratures, and having a projecting angle at their base on the upper side, while the under is sloped or cut away. About half the leaflets, and those the uppermost, are thickly set with round spots of fructification in a single line on each side of the rib, each spot covered with a round truly umbilicated involucrum. One or two smaller dots sometimes stand on the projecting angle of the leaflet.

This has often been supposed a mere variety of *P. aculeatum*, which, when transplanted from its native woods into an open garden, often dwindles away to the size of *P. Lonchitis*, see *Pluk. Phyt. t.* 180. *f.* 3, as Mr. W. Brunton of Rippon has proved by experiment. The *Lonchitis* however has the leaflets much less inclined to be lobed, and never auricled; its spots of fructification are thrice as large as in the other, and the plants are manifestly different.



Asplenium platyneuron L.







THE
HISTORY OF
THE
CITY OF
NEW YORK

The history of the city of New York, from its first settlement by the Dutch in 1624, to the present time. This work is divided into two parts. The first part contains a general history of the city, and the second part contains a particular history of the city, from its first settlement to the present time. The first part is divided into three books. The first book contains a general history of the city, from its first settlement to the present time. The second book contains a particular history of the city, from its first settlement to the present time. The third book contains a particular history of the city, from its first settlement to the present time. The second part is divided into two books. The first book contains a particular history of the city, from its first settlement to the present time. The second book contains a particular history of the city, from its first settlement to the present time.

THE HISTORY OF THE CITY OF NEW YORK, FROM ITS FIRST SETTLEMENT BY THE DUTCH IN 1624, TO THE PRESENT TIME. This work is divided into two parts. The first part contains a general history of the city, and the second part contains a particular history of the city, from its first settlement to the present time. The first part is divided into three books. The first book contains a general history of the city, from its first settlement to the present time. The second book contains a particular history of the city, from its first settlement to the present time. The third book contains a particular history of the city, from its first settlement to the present time. The second part is divided into two books. The first book contains a particular history of the city, from its first settlement to the present time. The second book contains a particular history of the city, from its first settlement to the present time.

[2024]

ASPIDIUM fontanum.

Smooth Rock Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond linear-lanceolate, smooth, mostly bipinnate; leaflets alternate, rounded; their segments very sharply toothed. Stalks winged. *Involucrum* oblong.

SYN. *Aspidium fontanum*. Sw. *Fil.* 57.

Polypodium fontanum. Linn. *Sp. Pl.* 1550. Sm.

Fl. Brit. 1114. Huds. 456. With. 777. Hull.

238. Villars *Dauph. v.* 3. 849.

P. n. 1706. Hall. *Hist. v.* 3. 15.

Adiantum filicinum durius crispum minimum. Barrel.

l. t. 432. *f.* 1.

WE have at length ascertained this fern to our satisfaction, and hasten to correct the errors respecting it in *Fl. Brit.* into which we were led by Linnæus having confounded with it a specimen that we now believe to be our *Polypodium hyperboreum*, t. 2023. The above synonyms are certainly correct, as, we trust, is the following information.

Mr. Hudson gathered this plant above Wybourn in Westmoreland, and received it from Agmondesham, or Amersham, church, Bucks. We have a specimen gathered by the late Mr. Aiton in the spot last mentioned, though the plant is said to be found there no longer; but this ascertains the species. The character and description of Linnæus agree with it, though not with the mistaken specimen above mentioned, whose capsules are intermixed with hairs, and which we had in view while writing *Fl. Brit.* The tufted root bears many fronds, from 2 to 6 inches high, rigid, smooth, of a somewhat glaucous green, linear-lanceolate, composed of numerous, alternate, pinnate or pinnatifid leaflets, whose lobes are very sharply toothed and slightly spinous, and all the stalks are winged. Dots at the midrib of each lobe, round, which makes the plant an *Aspidium*, though the singularly white involucrum is lateral and oblong, approaching to the nature of a *Darea*. There seems moreover some general affinity between the present fern and *Asplenium lanceolatum*, t. 240. One of our specimens was communicated by Mr. Dickson. We have seen no living ones.



Junca i acropathidella J. Koenig London





POLYPODIUM Thelypteris.

Marsh Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond pinnate; leaflets pinnatifid, somewhat crenate, separate but crossing each other at the base. Dots confluent.

SYN. Polypodium Thelypteris. *Linn. Mant.* 505. *With.* 776. *Hull.* 239. *Abbot.* 227. *Dicks. H. Sicc. fasc.* 6. 15.

Acrostichum Thelypteris. *Linn. Sp. Pl.* 1528. *Bolt. Fil.* 78. *t.* 43, 44.

Filix minor palustris repens. *Raii Syn.* 122.

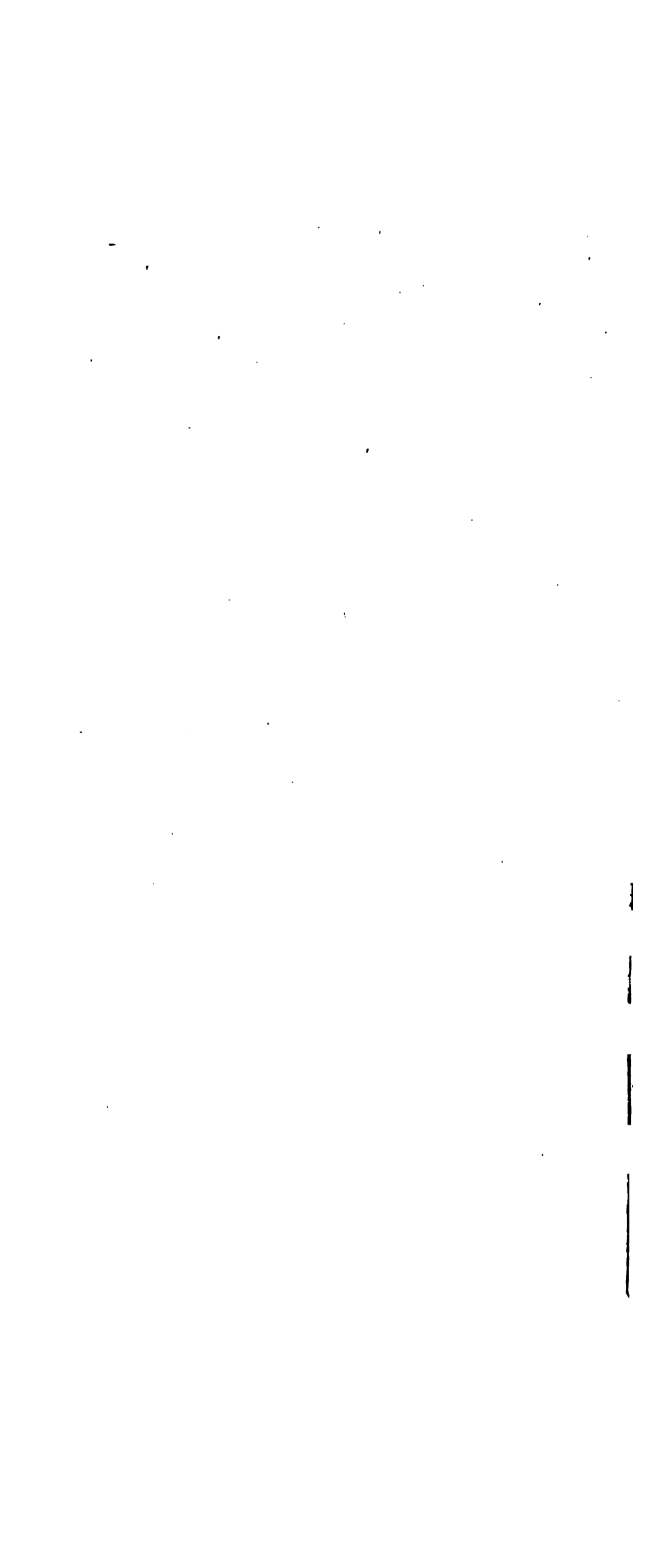
THIS Fern is always found in wet spongy marshes and bogs, but not frequently. Mr. Pitchford discovered it long ago on St. Faith's bogs near Norwich, and Mr. Turner lately at Lound near Yarmouth. It is also mentioned as growing in Bedfordshire, Yorkshire, and Scotland.

The root is long, slender, and creeps horizontally, pro-



Polypodium filix-mas





POLYPODIUM Oreopteris.
Heath Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond pinnate; leaflets pinnatifid, entire, sprinkled beneath with resinous glands. Dots marginal, confluent.

SYN. Polypodium Oreopteris. *Dickf. Tr. of Linn. Soc. v. 1. 181. H. Sicc. fusc. 1. 18. With. 775. Hull. 238. Sibth. 270.*

P. Thelypteris. *Huds. 457. Bolt. Fil. 40. t. 22. f. 1, 2. Hedw. Theor. 44. t. 6.*

Filicis maris vulgaris varietas. *Raii Syn. 122.*

THE Polypody here represented, much more common than the last, for which it has often been taken, grows in mountainous, heathy, or dry woody places, most plentifully in Scotland, Wales, and the north of England, though Mr. Lambert has found it in Hampshire. We received it from the Rev. Mr.

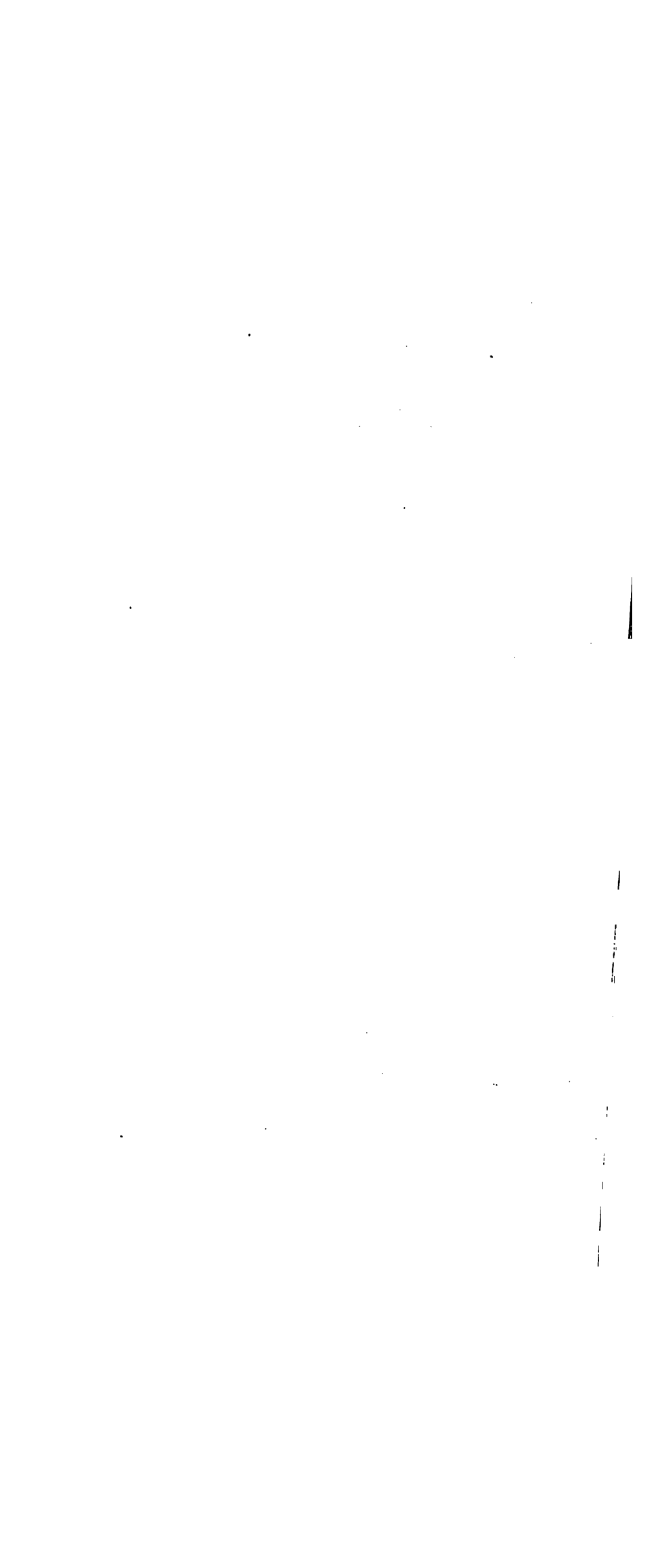


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From the *Publications of the Society of Science*.





[1458]

ASPIDIUM Filix mas.

Male Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond bipinnate; leaflets obtuse, serrated. Stalk scaly. *Involucrum* circular.

SYN. *Aspidium Filix mas.* Swartz. *Fil.* 38. *Sm. Fl. Brit.* 1121.

Polypodium Filix mas. Linn. *Sp. Pl.* 1551. *Huds.* 458.


With. 775. *Hull.* 238. *Relh.* 411. *Sibth.* 270.

Abbot. 226. *Bolt. Fil.* 44. t. 24. *Woodv. Med.*

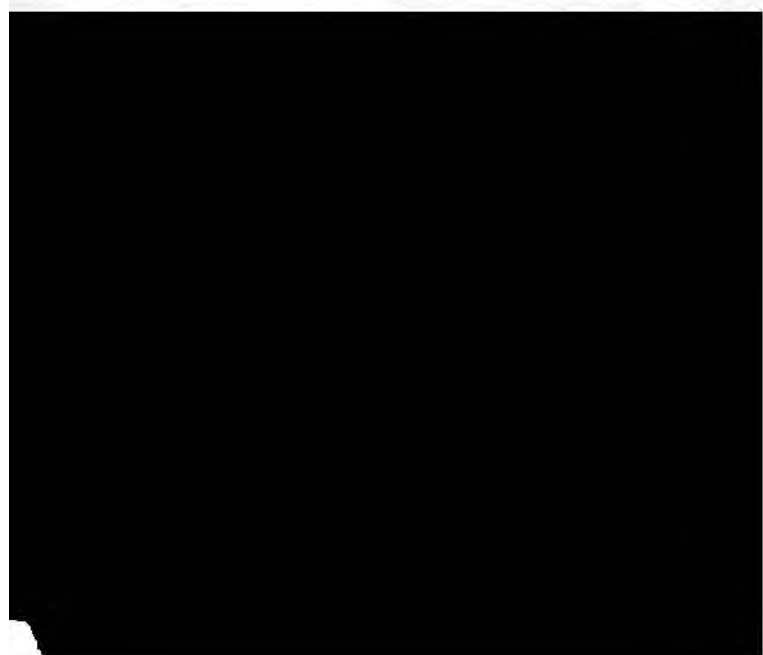
Bot. t. 49. *Dicks. H. Sicc. fasc.* 3. 19.

Filix mas vulgaris. *Raii Syn.* 120.

VERY common in dry hedge bottoms and other shady places, where as it unrolls its scaly buds in the spring it excites notice by its singularity. When fully grown, and covered with its innumerable spots of future seeds in June and July, it forms







ASPIDIUM cristatum.

Lesser Crested Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond nearly bipinnate; leaflets ovate, obtuse, with shallow lateral serratures and sharp little terminal teeth. Common stalk scaly. *Involucrum* nearly circular.

SYN. *Aspidium cristatum*. Swartz. *Fil.* 52.

Polypodium cristatum. Linn. *Sp. Pl.* 1551.

P. Callipteris. Ehrh. *Crypt.* 53.

GATHERED in hedge rows, on Apse heath and near Ryde, in the isle of Wight, by the Rev. G. R. Leathes. We have a specimen gathered in 1806 by the Rev. R. B. Francis near Holt, Norfolk, and have heard of others from Scotland, so that this species can no longer be refused a place in the *Flora Britannica*. Our specimens accord with original ones of Linnæus and Ehrhart, and are very distinct from *A. dilatatum*, t. 1461, long mistaken for the *P. cristatum* of Linnæus.

Root tuberous, somewhat creeping. Fronds 1 or 2 feet high, ovato-lanceolate, acute, pinnate; the leaves either again pinnate, or deeply pinnatifid; leaflets rather alternate, ovate, obtuse, veiny, with wide shallow serratures along their sides, and several broad, sharp, scarcely spinous, little teeth at their summits. The ribs are somewhat zigzag. Dots of capsules tawny, about the upper part of the frond, but on the lower part of each leaflet or segment. *Involucrum* between kidney-shaped and circular. The common stalk is very scaly in the lower part, and more or less so up to the summit. The fronds when drying have a faint sweet scent, unlike the generality of British ferns.



Illustration of the fern frond and rhizome, showing the internal structure of the rhizome and the development of the young frond.

ASPIDIUM aculeatum.
Common Prickly Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond bipinnate; leaflets ovate, somewhat crescent-shaped, fringed with spines, hairy beneath. Common stalks scaly.

SYN. *Aspidium aculeatum*. Sm. *Fl. Brit.* 1122.

Polypodium aculeatum. Linn. *Sp. Pl.* 1552. Huds. 459. With. 777. Hull. 239. Relh. 412. Sibth. 271. Abbot. 227. Bolt. *Fil.* 48. t. 26. Mill. *Illustr. t.* 101.

Filix mas non ramosa, pinnulis latis auriculatis spinosis. Raii *Syn.* 121. n. 2; also n. 4 and 5.

FREQUENT in shady stony places, and often in dry hedge bottoms, bearing seed in the summer and autumn.

Root perennial, tufted, large. Fronds numerous, large and handsome, of a dark and blueish green, paler beneath, lanceolate, acute, elegantly and closely bipinnate; their general and partial stalks remarkably scaly. Leaflets mostly alternate, ovate, a little curved into a crescent-shape, sharply serrated, each tooth tipped with a spine: all the leaflets are more or less lobed or dilated at their upper edge near the base, and sometimes the lowermost are pinnatifid. Spots of seeds scattered over the disk, their membranous coverings quite circular, attached by the centre, perfectly entire, not, as in most of the genus, cloven on one side.

The size of the plant is much diminished when it meets with a very dry or barren soil, in which case it approaches *Aspidium Lonchitis* in habit, but is a very distinct species. See t. 797.



Edw. Hill. Engraved by J. S. Sowerby. London.



100

100

100

100

ASPIDIUM lobatum.
Close-leaved Prickly Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond bipinnate; leaflets elliptical, somewhat crescent-shaped, fringed with spines, hairy beneath: the foremost of the lowest pair very large. Common stalk scaly.

SYN. *Aspidium lobatum*. Sm. *Fl. Brit.* 1123.

Polypodium lobatum. Huds. 459.

Filix aculeata major, pinnulis auriculatis crebrioribus, foliis integris angustioribus. Raii *Syn.* 121.

F. aculeata, *Lonchitidis æmula nostras*. Pluk. *Phyt.* t. 180. f. 3.

SINCE Ray, whose description is excellent, we believe no one has well understood this fern except Mr. Edward Forster, to whom we are obliged for directing our attention particularly to the subject. It has not been observed out of Essex, where it is not uncommon in shady places under hedges. It varies in size, but often equals *A. aculeatum* in the height of its fronds, though their breadth is always less in proportion. The whole frond is more firm and rigid, of a paler and more shining green. The leaflets are rather elliptical than ovate, crowded, less cut or lobed, but more remarkable for the great size of the foremost or uppermost one at the base of each subdivision of the frond, which often extends its point beyond the stalk above it.

1563



Tab. 1. 1806. Published by J. G. Sowerby, London.



ASPIDIUM Filix fœmina.
Female Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond bipinnate; leaflets pinnatifid, serrated, pointless. Stalk smooth. *Involucrum* kidney-shaped.

SYN. *Aspidium Filix fœmina.* Swartz. *Fil.* 41. *Sm. Fl. Brit.* 1124.

Polypodium Filix fœmina. Linn. *Sp. Pl.* 1551. *Huds.* 458. *With.* 778. *Hull.* 239. *Relh.* 411. *Sibth.* 271. *Abbot.* 226. *Bolt. Fil.* 46. *t.* 25. *Dicks. H. Sicc. fasc.* 5. 18.

Filix mas non ramosa, pinnulis angustis raris, profundè dentatis. *Raii Syn.* 121.

ALMOST as common as the last, but in a different kind of situation, growing in marshy shady places. It is in perfection about July.

The root is large and tufted, bearing many very handsome fronds 18 or 20 inches high, of a broad acute lanceolate form, and a full grass-green colour, smooth in all their parts. Their stalk is slender, pale, and very smooth. Leaflets (or primary divisions) alternate, lanceolate, pointed, subdivided into other leaflets, which are elegantly pinnatifid sometimes even pinnate, and obtusely notched, their lobes all destitute of any bristly termination; the upper ones are decurrent. Spots of fructification much smaller than in *A. Filix mas*, and not circular but oblong, or crescent-shaped, the involucrum being kidney-shaped, bursting towards the rib of the leaflet. The name merely alludes to the greater elegance or delicacy of this species compared with the last.





[2199]

ASPIDIUM irriguum.

Brook Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

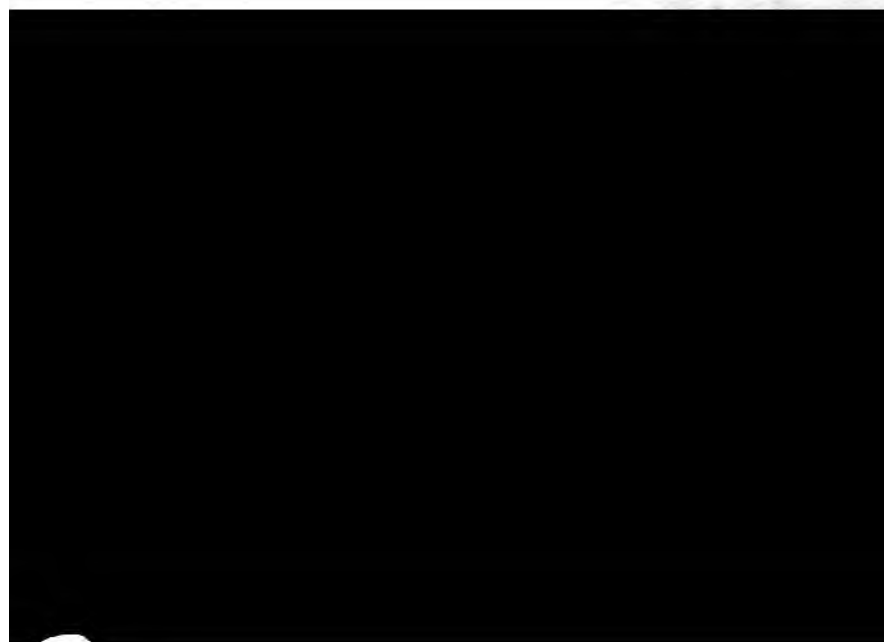
SPEC. CHAR. Frond lanceolate, pinnate; leaflets deeply pinnatifid, cut and sharply toothed. Stalk quadrangular. *Involucrum* lateral, short, jagged.

DISCOVERED by T. F. Forster, Esq., about the watery margins of clear springs near Tunbridge wells. Our figure was taken in June, 1810, from a living plant in his garden, not at all changed by cultivation.

We can find no described fern, nor any exotic or British specimen, that accords with this. It agrees in some points with *A. Thelypteris*, (*Polypodium Thelypteris*, t. 1018,) but is much smaller, more tender and delicate, neither has it a creeping root. The main rib is exactly square, and of a delicate transparent green when living, pale brown when dried. Leaflets numerous, alternate, very deeply and copiously pinnatifid, their segments ovate-oblong, sharply cut and toothed, merely connected at the base by a sort of wing from the partial rib. Dots of fructification several about the lower part of each segment, small, round, brown, not reddish. *Involucrum* short and oblong, or somewhat square, very delicate, whitish, jagged or fringed at its edge, affixed laterally to the nerve of each segment, and separating inwards. It is scarcely umbilicated, but rather more approaches to the nature of our *Cyathea fragilis*, t. 1587, and *dentata*, t. 1588; yet as there is some doubt respecting even their genus, and the *involucrum* of the present fern has nothing of a cup shape, we rather refer it, like t. 2024, to *Aspidium*. It does not by any means agree with the character of Bernhardt's *Cystopteris*, Schrad. New Journ. v. 1. fasc. 2. t. 2, founded on *Cyathea fragilis*.



Asplenium platyneuron L. f. *Asplenium* L.



[1460]

ASPIDIUM spinulosum.

Lesser Crested Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond nearly bipinnate; leaflets decurrent, elliptical, serrated or pinnatifid, their segments tipped with little spines. Common stalks smooth. Ribs zigzag.

SYN. *Aspidium spinulosum*. Sm. *Fl. Brit.* 1124.

Polypodium spinulosum. Retz. *Prod.* 250. *Fl. Dan.* t. 707. *With.* 778. *Hull.* 239. *Sym.* 191.

P. n. 841. *Muller. Fl. Fridr.* 193. t. 2. f. 2.

Filix pumila saxatilis altera. *Pluk. Phyt.* t. 179. f. 5.

MR. J. T. Mackay of Dublin gathered this specimen last September in a cavern on Spike Island, near Cove, below Cork, Ireland. Dr. Scott has found the same in the north part of that kingdom. We never saw it before except in Mr. Rose's herbarium. Muller and Plukenet have figured it well, but Dr. Withering first made it known as a British plant. Probably it may have been confounded with the following species.

The root is creeping. Fronds about a foot high, each with a long slender stalk, which is quite smooth except its very base. The primary divisions are so deeply pinnatifid as to be almost pinnate; their lobes elliptical, sharply serrated or pinnatifid, thin and delicate, each incision tipped with a spine. The rib of each pinnula is very much waved or zigzag. Dots of capsules rather small, with a circular covering.





ASPIDIUM dilatatum.
Great Crested Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond bipinnate; leaflets deeply pinnatifid, sharply cut, segments tipped with little spines. Common stalks scaly. *Involucrum* circular.

SYN. *Aspidium dilatatum*. Sm. *Fl. Brit.* 1125.

Polypodium dilatatum. Hoffm. *Germ. v.* 2. 7.

P. cristatum. Huds. 457. With. 778. Hull. 239, Relh. 410. Sibth. 270. Abbot. 226. Bolt. *Fil.* 42, t. 23.

P. n. 845. Muller. *Fl. Fridr.* 193. t. 2. f. 4.

Filix mas ramosa, *pinnulis dentatis*. Raii *Syn.* 124. Pluk. *Phyt. t.* 181. f. 2.

IN shady moist sandy places, or moist rocky woods, not very unfrequent, producing seeds in July, and varying much in size.

The root is tuberous, scarcely creeping. Fronds from 1 to 3 feet high, broad and spreading, twice or almost thrice pinnate, their common and partial stalks all more or less scaly. Their secondary leaflets are nearly opposite, pinnate, at their base, pinnatifid upwards; the lobes small, oblong, deeply and sharply serrated or cut, their incisions spinous, their ribs less frequently zigzag than in the last. Dots of capsules numerous, distinct, with a circular covering.



Adiantum Falcatum L. f. *Adiantum Falcatum* L.



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ASPIDIUM cristatum.

Lesser Crested Shield-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond nearly bipinnate; leaflets ovate, obtuse, crenate or pinnatifid, with sharp little terminal teeth. Stalk scaly at the base. *Involucrum* nearly circular.

SYN. *Aspidium cristatum*. Swartz. *Fil.* 52.

Polypodium cristatum. Linn. *Sp. Pl.* 1551.

P. Callipteris. Ehrh. *Crypt.* 53.

HAVING unfortunately been misled to figure a wrong plant under this name in *t.* 1949, we find it necessary now to exhibit the true one, gathered by the Rev. R. B. Francis in the low boggy parts of the heath between Holt and Hempstead, Norfolk, and to draw up our definition and description afresh.

Root tufted. Fronds pale green, 1 or 2 feet high, linear-lanceolate, the fertile ones, as Mr. Francis observes, remarkably erect, in which the leaves are more alternate than in the barren ones. The leaves (or *pinnæ*) are of moderate length, very deeply pinnatifid, acute; their segments or leaflets close, broad, obtuse, either crenate or slightly pinnatifid, their ends and lobes bearing sharp, scarcely spinous, little teeth. Ribs somewhat zigzag. Dots of capsules blackish when fresh, with a white nearly circular *involucrum*, the whole becoming tawny when dried. They are ranged equally in single rows along each side of every fertile leaflet. Common stalk scaly at its base chiefly.

The isle of Wight plant, *t.* 1949, is supposed to be only a variety of *A. Filix mas*, *t.* 1458, and its sweet scent, which still remains in the dried specimens, to be adventitious. Can this be what Hudson mistook for *Polypodium fragrans*? See the remark at the bottom of our *p.* 1019.



Mar. 4 1810 published by J. Smith & Co.





ASPLENIUM Trichomanes.

Common Maidenhair Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond pinnated. Leaflets roundish, crenate.

SYN. Asplenium Trichomanes. *Linn. Sp. Pl.* 1540. *Huds.* 452. *With.* 768. *Relb.* 388. *Sibtb.* 268. *Abbot.* 225. *Bolt. Fil.* t. 13. *Woodv. Med. Bot.* t. 204. *Dicks. H. Sicc. fasc.* 4. 17.

Trichomanes. *Raii Syn.* 119.

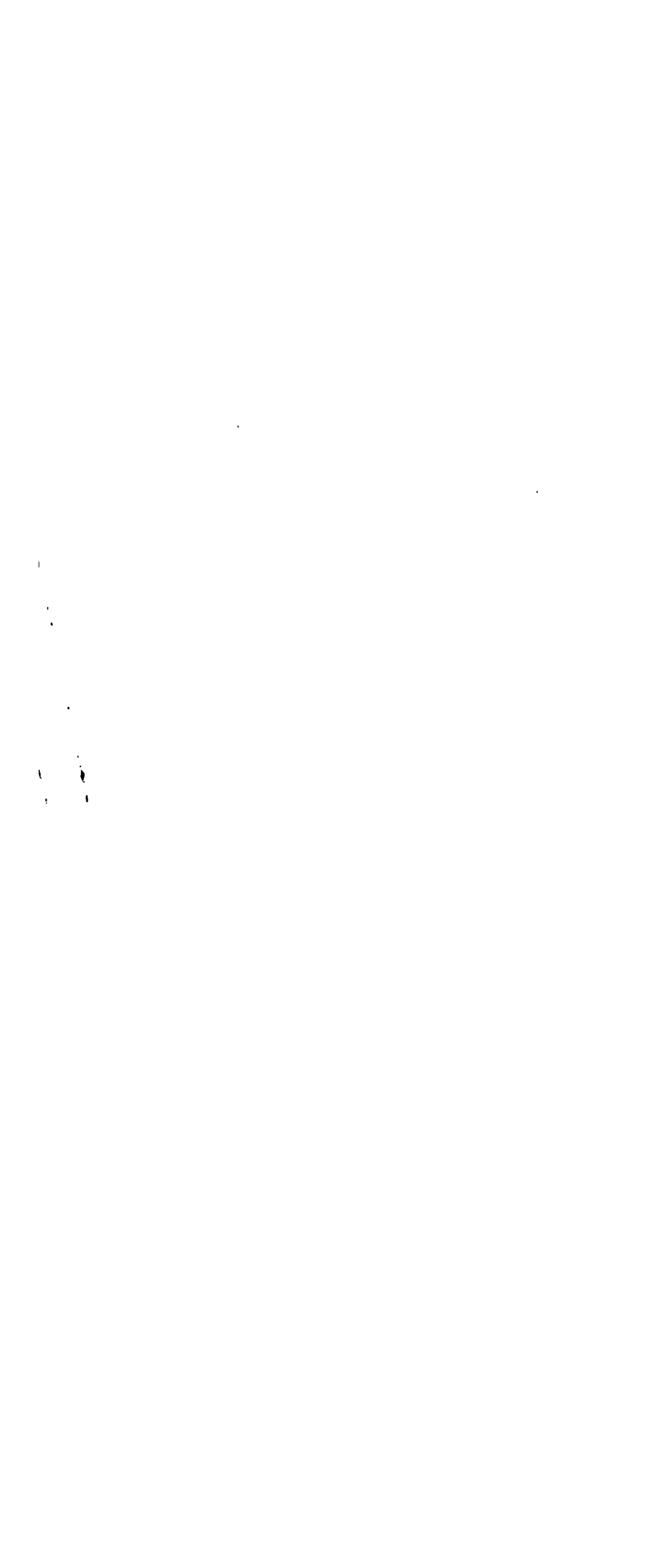
NOT uncommon on shady rocks, old walls, the north side of churches and similar situations, where its fructification may be found at almost all seasons.

Root tufted, woolly, perennial. Fronds numerous, spreading, lanceolate, consisting of a smooth, dark-brown, polished stalk, bearing many pairs of opposite, roundish, or rather ovate, crenate leaflets, of a deep green; their under side producing 6 or 8 oblong spots of fructification, whose covering membrane opens towards the mid-rib. The numerous capsules consist of two hemispheres bound by an elastic jointed ring, as in most of the *Filices dorsiferae*.

This is a pretty fern, not unworthy of a place on shady rockwork, and about grottos or fountains. Its medical virtues are very doubtful. It has been used as a substitute for the Maidenhair of warmer climates, *Adiantum Capillus Veneris*, from which a syrup is made, perfumed with orange-flowers, and called Syrup of Capillaire. The virtues of even this, as a cure for coughs and colds, are probably owing to the fugar more than to the Maidenhair.



Adiantum species by P. Smithy London





ASPLENIUM viride.
Green Maidenhair Spleenwort.

CRYPTOGAMIA Foss.

GEN. CHAR. *Fractif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SEX. CHAR. Frond pinnate; leaflets alternate, roundish-elliptic, crenate. Common stalk flattened beneath.

SYN. *Asplenium viride.* *Huds.* 453. *Sm. Fl. Brit.* 1127. *With.* 768. *Hull.* 241. *Dicks. H. Sicc. fasc.* 3. 18. *Lightf.* 663. *Winch. v.* 1. 97. *Bolt. Fil.* 24. *t.* 14. *Ehrh. Crypt.* 71.

Æ. A. *Trichomanes-ramosum.* *Linn. Sp. Pl.* 1541. *Bolt. Fil.* 25. *t.* 2. *f.* 3.

Trichomanes ramosum. *Bauh. Hist. v.* 3. 747. *Ruii Syn. ed.* 2. 46. *ed.* 3. 119.

T. minus et tenerius. *Moris. sect.* 14. *t.* 3. *f.* 11.

FOUND on rocky mountains in Wales, Scotland, and the north of England. We have received wild specimens from Mr. Griffith and the Rev. T. Gisborne. It seems generally to prefer granite to calcareous rocks.





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ASPLENIUM marinum.

Sea Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond pinnated. Leaflets ovate, oblique, serrated, obtuse; unequal and wedge-shaped at the base.

SYN. *Asplenium marinum.* *Linn. Sp. Pl.* 1540. *Huds. Fl. An.* 453. *With. Bot. Arr. v.* 3. 53. *Dischs. H. Sicc. fasc.* 7. 17. *Lightf. Scot.* 664. *Chamæfilix marina* Anglica. *Raii Syn.* 119.

GATHERED by Mr. T. F. Forster, jun. on the rocks at Hastings, near the castle, where it was observed in the last century, as well as in some other parts of the south and west coast. Mr. Lightfoot found it in several places on the Scottish coast, and rightly refers to this plant Sibbald's wretched figures, *Scotia illustrata*, tab. 3. f. 1, 2, which have been taken for the *Adiantum trapeziforme* of Linnæus, an American fern, that has





Sept. 1797. Published by J. Smockley, London.



ASPLENIUM septentrionale.

Forked Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruſtif.* in ſcattered lines. *Involucrum* originating laterally from a vein, and burſting inwardly.

SPEC. CHAR. Frond-wing three-cleft ; ſegments alternate, linear, jagged at the points.

SYN. *Asplenium septentrionale.* *Hull.* 241.

Acroſtichum ſeptentrionale. *Linn. Sp. Pl.* 1524.
Hudſ. 450. *With.* 764. *Bolt. Fil.* 12. t. 8.
Dickſ. Dr. Pl. 45.

Filix ſaxatilis Tragi. *Raii Syn.* 120.

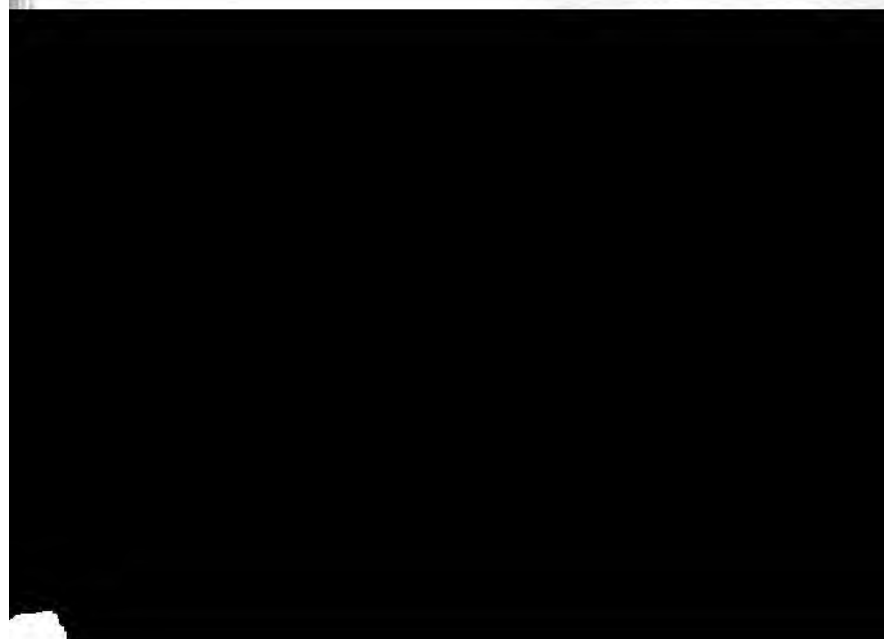
ANATIVE of clefts of rocks in ſome few mountainous parts of this iſland, as North Wales ; Ingleborough, Yorkſhire, and above Ambleſide, Weſtmoreland. At the Hermitage a mile ſouth of Edinburgh (a wild romantic ſpot), and upon Arthur's ſeat which overlooks that town, we have ſeen it in plenty, and it was obſerved there by Thomas Willifel in the days of Ray.

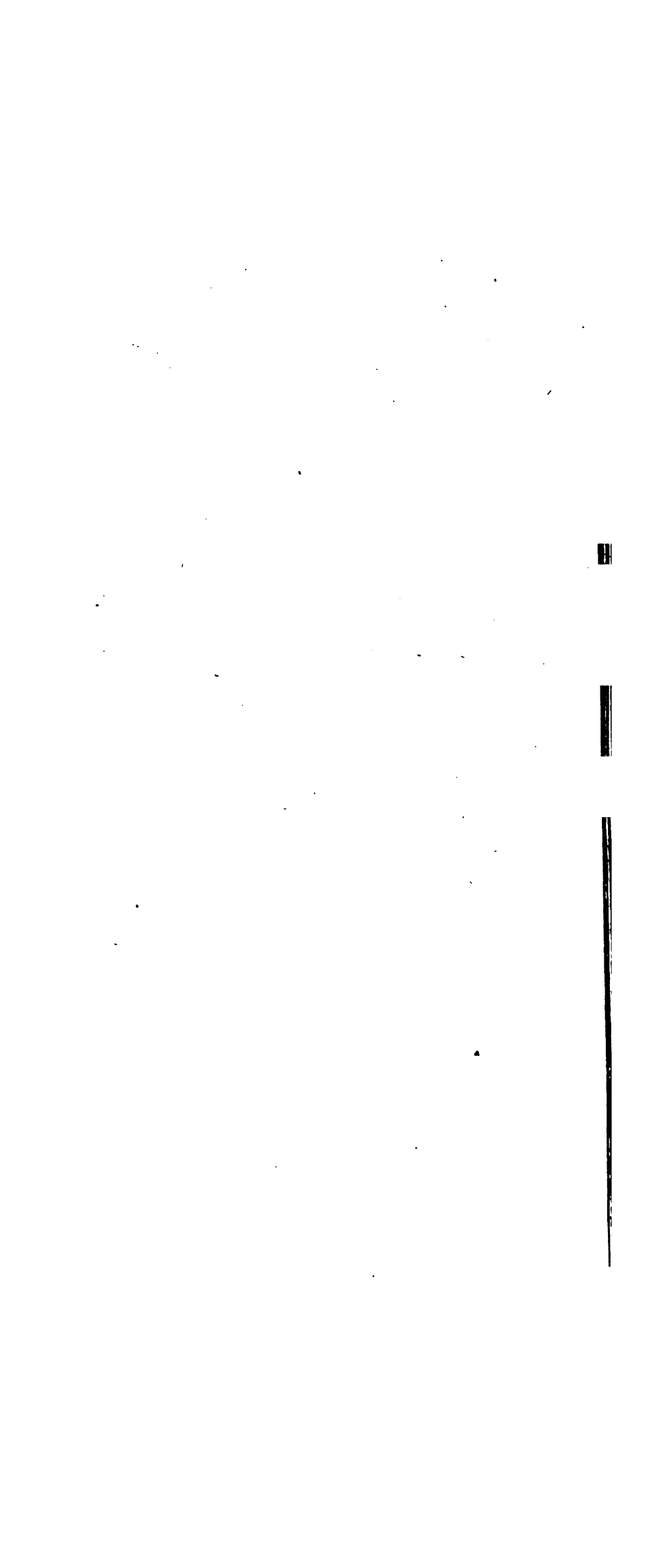
The roots are black, tufted and woody, throwing up innume-





Agave americana L. var. robusta L. f. var. robusta L. f.





ASPLENIUM alternifolium.

Alternate-leaved Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein and bursting inwardly.

SPEC. CHAR. Frond pinnate; leaflets alternate, wedge-shaped, erect, jagged at the extremity.

SYN. *Asplenium alternifolium*. *Jacq. Misc.* v. 2. 51.

t. 5. *f.* 2. *Dicks. Tr. of Linn. Soc.* v. 2. 290.


Sm. Fl. Brit. 1130. *With.* 768. *Hull.* 241.

A. germanicum. *Weis. Gott.* 299. *Ehrh. Crypt.* 43.

Scolopendrium alternifolium. *Roth. Germ.* v. 3. 53.

Adiantum novum germanicum, *rutæ murariæ* facie. *Breyn. Cent.* 1. 97.

OUR good friend Mr. Dickson, whose discoveries have undoubtedly more copiously enriched the British Flora, than those of any other person since the days of Ray and Dillenius



2258.



Fig. 1. published by J. F. G. L. L. L.



ASPLENIUM Ruta-muraria.

White Maiden-hair or Wall-rue.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruetifications* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly (that is towards the nerve). *Smith Mem. of the Turin Acad. Vol. 5.*

SPEC. CHAR. Frond alternately twice compound; leaflets wedge-shaped notched.

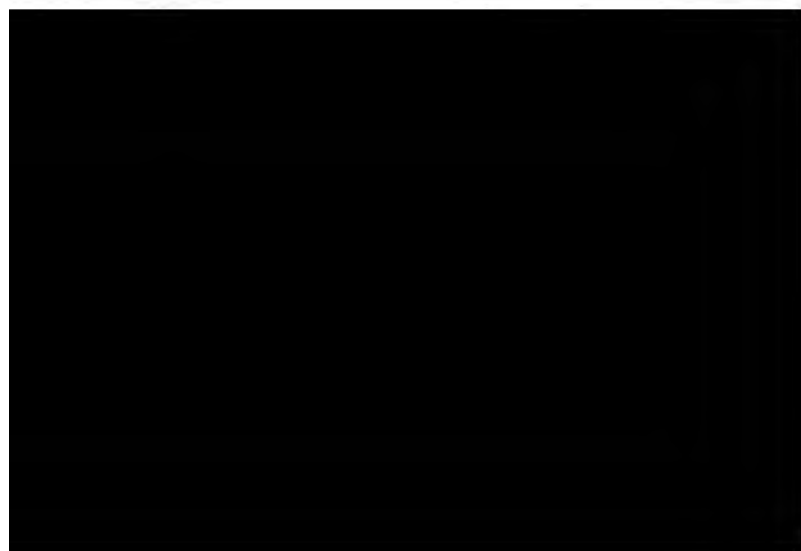
SYN. Asplenium Ruta-muraria. *Lin. Sp. Pl. 1541.*
Huds. Fl. An. 453. With. Bot. Arr. V. 3. 53.
Relb. Cant. 389.

Ruta muraria. *Raii Syn. 122.*

OLD walls and shady rocks produce this little fern not unfrequently, varying much in size according to the degree of nourishment, or rather moisture, that it meets with. The fructifications may be found early in summer in the best state for examination, when the membrane which covers each line is about to burst. The genera of ferns can only be determined in that early state, as many whose involucre are widely different



Adiantum





[1950]

ASPLENIUM *Adiantum-nigrum*.

Black Maidenhair Spleenwort.

CRYPTOGAMIA *Filices*.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond somewhat deltoid, alternately thrice pinnated; leaflets lanceolate, sharpish, deeply serrated.

SYN. *Asplenium Adiantum-nigrum*. *Linn. Sp. Pl.* 1541. *Sm. Fl. Brit.* 1131. *Huds.* 454. *With.* 770. *Hull.* 242. *Relh.* 409. *Sibth.* 269. *Abbot.* 225. *Bolt. Fil.* 30. t. 17.

Adiantum nigrum officinarum. *Raii Syn.* 126. n. 10. also 127. n. 12, 13.

FREQUENT in dry shady hedge bottoms, about the roots of old trees, on ruined buildings and among rocks, bearing seed in the summer and autumn.

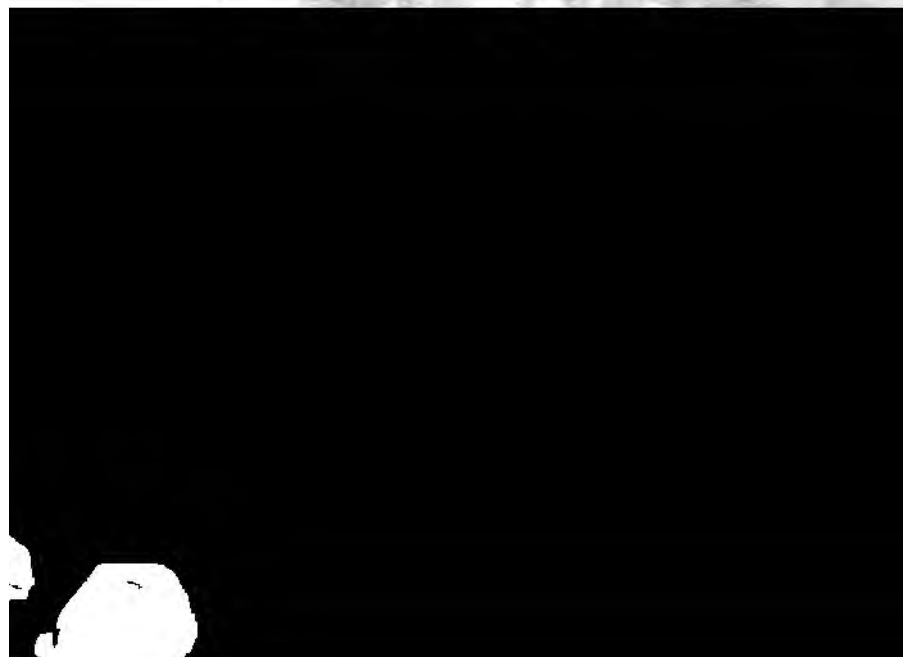
Root perennial, black and tufted. Fronds numerous, upright, a foot or thereabouts in height, firm, oblong, but assuming a deltoid or triangular figure from the elongation of their first pair of ramifications. They are throughout alternately tripinnate; the leaflets rather acutely and deeply serrated or cut, except at their base, which is entire and wedge-shaped. The colour of the frond is a darkish shining green; that of the stalk deep purple, and polished. The covers of the fructification are very conspicuous for their whiteness and abundance. Capsules red-brown.

The variety β of *Fl. Brit.* which is No. 13 of Ray's *Synopsis*, was found by Sherard in a dark cave on the mountains of Mourne, Ireland, and is preserved in his herbarium at Oxford, where, by the kind permission of Professor Williams, we have examined it. Nothing can be more delicate and elegant than the specimen. We think with Dillenius it most probably belongs to *P. aculeatum*, and it seems analogous to the variety of *P. aculeatum* called the *cambricum*, being like that fine fructification.

2950



Des. et del. J. B. Smith by J. T. Smith



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ASPLENIUM lanceolatum.
Lanceolate Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond lanceolate, alternately doubly pinnated; leaflets obovate, deeply and sharply crenated.

SYN. Asplenium lanceolatum. *Hudf. Fl. An.* 454.
With. Bot. Arr. v. 3. 54.

THIS fern, which seems to have been hitherto but very little known, was discovered by Mr. T. F. Forster jun. on the Great Rocks at Tunbridge Wells. Specimens of it gathered by the celebrated circumnavigators of the same name in the Island of Fayal, one of the Azores, are preserved in Sir J. Banks's herbarium. There appears to be no doubt of its being Mr. Hudson's *A. lanceolatum*, but we dare not adopt his uncertain synonym of Ray; for it does not seem probable that the botanists of that day, inattentive to the fructification of ferns, would have judged the plant before us to be by any means allied to *A. Adiantum-nigrum*. Neither can we assent to its being *A. Trichomanes-ramosum* of Linnæus. For although no species so marked is in his herbarium, and therefore it cannot



Polypodium, Herb. 78



SCOTOPHILUM

Common Hawk-moth

SCOTOPHILUM is a genus of moths, the larvæ of which are nocturnal. The genus is named in honour of the Scotch people, who are supposed to have been the first to domesticate the silkworm. The larvæ of this genus are very voracious, and are found in great numbers in the forests of the Highlands. The pupæ are also very large, and are found in the same places. The adults are very beautiful, and are found in the same places. The genus is very common in the Highlands, and is found in the same places.

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SCOLOPENDRIUM vulgare.

Common Hart's-tongue.

CRYPTOGAMIA Filices, annulate.

GEN. CHAR. *Fruſtif.* in scattered double lines, between veins. *Invol.* superficial, folding lengthwise over one another, separating by a longitudinal suture.

SPEC. CHAR. Frond undivided, tongue-shaped; cordate at the base; smooth beneath.

SYN. *Scolopendrium vulgare.* *Sym. Syn.* 193.

Asplenium Scolopendrium. *Linn. Sp. Pl.* 1537.

Hudſ. 452. *With.* 766. *Hull.* 241. *Relb.* 408.


Sibth. 268. *Abbot.* 225. *Bolt. Fil.* 18. t. 11.

Curt. Lond. fasc. 1. t. 67. *Woodv. Suppl.* t. 272.

Phyllitis. *Raii Syn.* 116.

COMMON about moist shady rocks, deserted mines, the insides of wells, and other damp hollow places. The fructification is most perfect for examination about July.

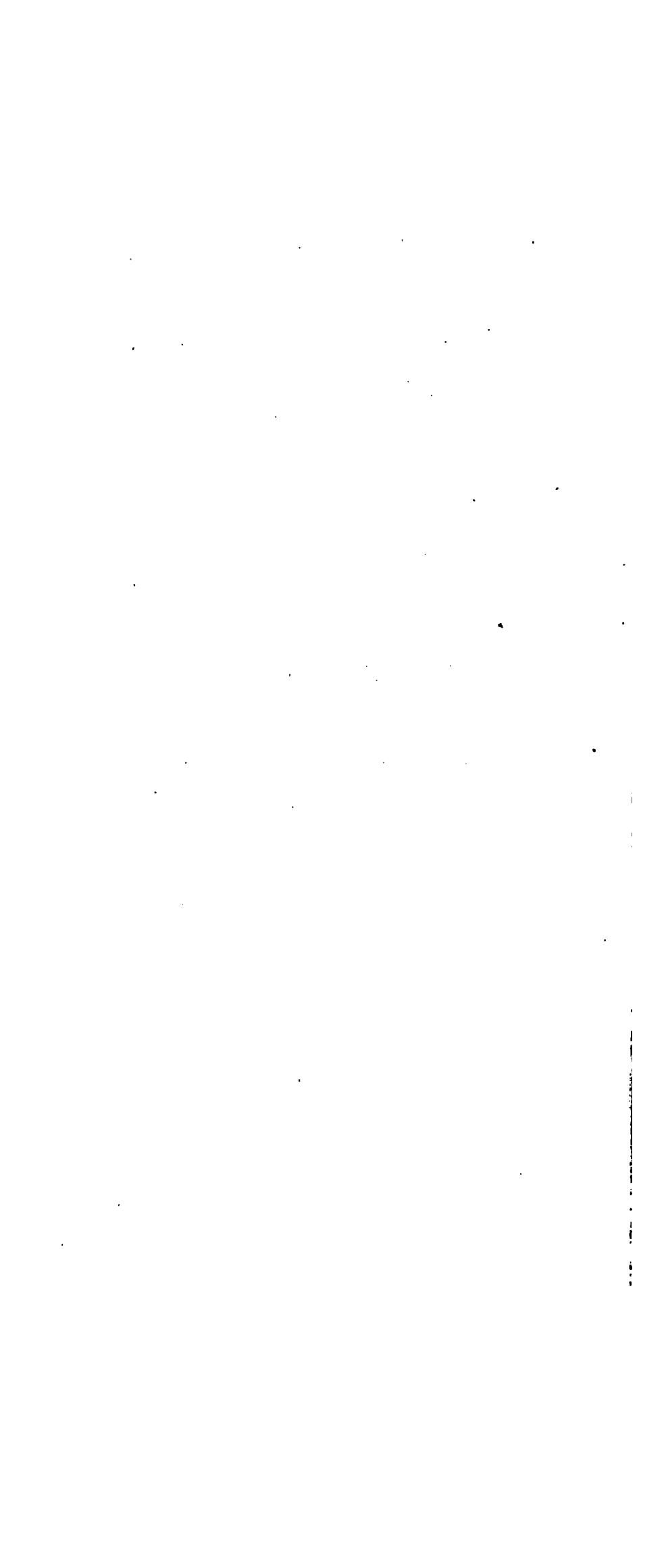
Root perennial, tufted. Fronds many, a foot or 18 inches high, erect, of a full grass green, stalked, lanceolate, acute, entire, waved, smooth except the stalk and back rib, which are scaly; heart-shaped at the base; sometimes accidentally





Ap. 1. 1863 Published by W. & A. G. & Co. London.





SCOLOPENDRIUM Ceterach.

Common Scaly Spleenwort.

CRYPTOGAMIA Filices, annulatæ.

GEN. CHAR. *Fructif.* in scattered double lines, between veins. *Invol.* superficial, folding lengthwise over one another, separating by a longitudinal suture.

SPEC. CHAR. Frond pinnatifid, lanceolate, scaly beneath.

SYN. Scolopendrium Ceterach. *Sm. Fl. Brit.* 1134. *Sym.* 193. *Roth. Germ. v.* 3. 48.

Asplenium Ceterach. *Linn. Sp. Pl.* 1538. *Huds.* 452. *With.* 767. *Hull.* 241. *Bolt. Fil.* 20. t. 12.

A. sive Ceterach. Raii Syn. 118.

LESS frequent than the other British *Scolopendrium* represented in our t. 1150, but still far from uncommon on calcareous rocks and walls in the west and north of England. About Bristol it has been constantly observed since the days of Ray. In Oxfordshire and even in Norfolk, it is sometimes seen on old churches or castles. It is found in fructification at all seasons, when situated in shady or moist places. We have preserved it for several years in a garden.

The root is perennial, furnished with many very black fibres. Fronds numerous, from 4 to 8 inches high, spreading, lanceolate, deeply cut into numerous alternate, entire, blunt, regular lobes; smooth and dark green above, not shining; densely covered beneath with membranous, lanceolate, reticulated, serrated, shining, rusty-coloured scales, which give this fern a very peculiar and striking appearance. The lines of capsules are numerous, bordered on each side by an entire involucre, which however is so much concealed by the scales, as not to be discoverable without great care. The stalk of the frond is black and shining, more or less scaly.





[1159]

BLECHNUM boreale.

Northern Blechnum.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruſtif.* in longitudinal continued lines, near the rib. *Involucrum* superficial, continued, opening towards the rib.

SPEC. CHAR. Frond pinnated, smooth; its lobes linear, bluntish, entire, scarcely dilated at the base.

SYN. *Blechnum boreale.* Swartz. in Schrad. Journ. ann. 1800, v. 2. 75.

B. Spicant. With. 765. Hull. 242. Sym. 193. Relb. 407.

Osmunda borealis. Salisb. Prod. 402.

O. Spicant. Linn. Sp. Pl. 1522. Hudf. 450. Abbot. 224. Bolt. Fil. 8. t. 6. Curt. Lond. fasc. 2. t. 67.

Acrostichum Spicant. Sibth. 267.

Lonchitis aspera. Raii Syn. 118.

A NATIVE of moist shady places, as well as of open barren and stony heaths, where its seeds are perfected in July and August.

Root perennial, black and scaly. Fronds several, a foot





May 1 1805 Published by J. A. Sowerby, London.



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P T E R I S aquilina.

Common Brakes.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in a marginal continued line.
Invol. formed of the reflexed margin of the leaf
itself, uninterrupted and bursting inwards.

SPEC. CHAR. Frond thrice pinnate; its segments lanceolate, bluntish; the lowermost pinnatifid; the uppermost smallest.

SYN. *Pteris aquilina.* Linn. *Sp. Pl.* 1533. *Sm. Fl.*
Brit. 1136. *Huds.* 451. *With.* 765. *Hull.* 242.
Relh. 407. *Sibth.* 267. *Abbot.* 224. *Bolt. Fil.*
16. t. 10.

Filix fœmina. *Raii Syn.* 124.

β. *F. saxatilis ramosa maritima nostras.* *Raii Syn.* 125.
Pluk. Phyt. t. 182. f. 1.

THE most common of European ferns, growing copiously on heaths and open hilly places, as well as in thickets and woods, in all parts of our island. The root is perennial, the herb annual, springing up about April, when its unrolling scaly shoots are remarkable. It is sometimes killed down to the root by frosts in the spring, as happened all over Thetford heath this year, 1806.

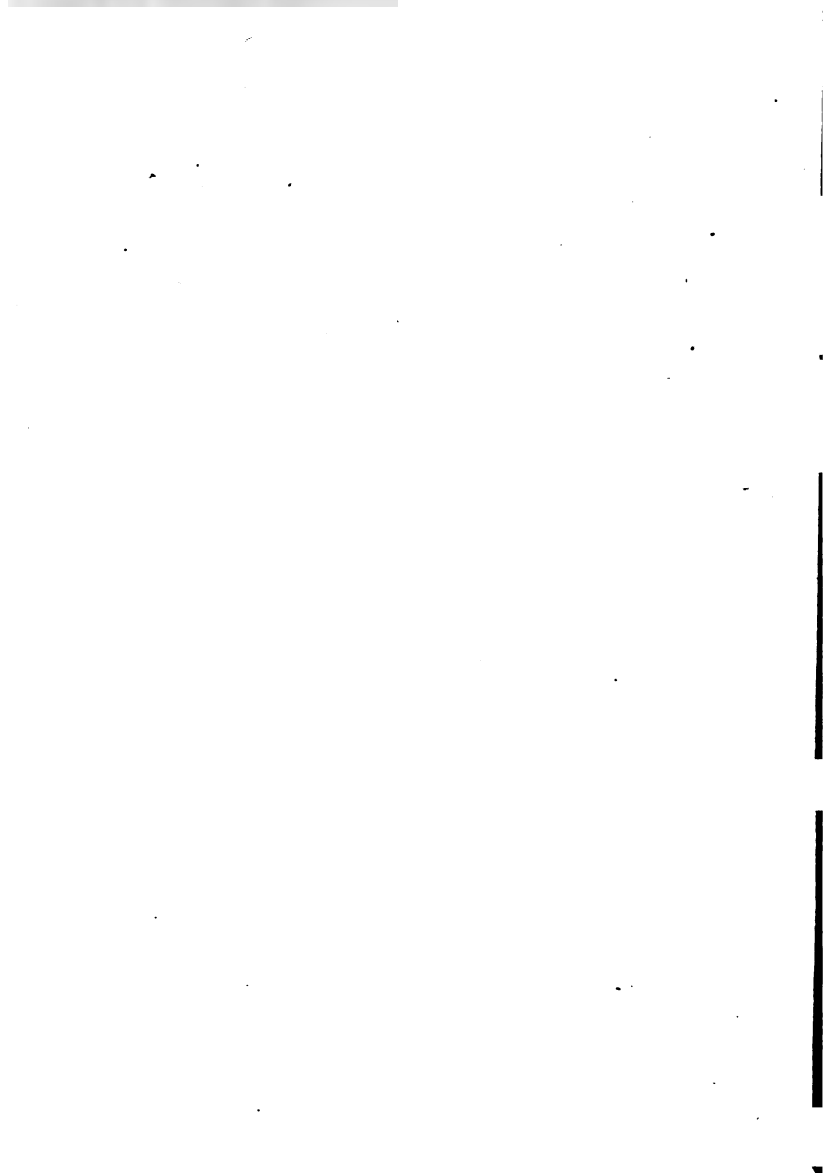
The frond is erect, from 1 to 6 feet high, elegantly spreading, repeatedly compound, pinnate, its greater subdivisions more opposite than the smaller; the ultimate ones alternate, sessile, close, lanceolate, entire, rather blunt; smooth and striated above; broad at the base; their margin inflexed, jagged, hairy, covering the fructification. The barren leaflets are pale and hairy beneath. Capsules pale brown, each bound with a ring, and supported by a taper stalk. The main stem is angular and sharp-edged, cutting the hands of those who gather it unwarily. A transverse section shows the pith of a branched figure, compared by some to a spread-eagle, by others to King Charles in the oak; but rustic lovers fancy they here see the initials of their future spouse, of which there is no doubt, for the figures in question express any thing at the pleasure of the imagination. The principal use of this plant besides is for firing;

“*Neglectis urenda filix innascitur agris.*” Hor. Sat.

The delicate variety β grows on damp walls or rocks near the sea, and has rounder more distant leaflets. By culture it assumes the proper appearance of the species.







[1160]

PTERIS crispa.
Curled or Rock Brakes.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in a marginal continued line.
Invol. formed of the reflexed margin of the leaf
 itself, uninterrupted and bursting inwards.

SPEC. CHAR. Frond thrice pinnate; the barren leaflets
 wedge-shaped, cut; the fertile elliptical, obtuse,
 convex.

SYN. *Pteris crispa.* Linn. *Mss. in Sp. Pl.* 1522.
With. 764. *Hull.* 243.

Osmunda crispa. Linn. *Sp. Pl.* 1522. *Huds.* 450.
Lighf. 655. *Bolt. Fil.* 10. t. 7.

Adiantum album crispum alpinum. *Raii Syn.* 126.

THE dry barren sides of mountains in Westmoreland, Wales and Scotland derive no inconsiderable degree of beauty from the pea-green feathery tufts of this elegant fern, which spring out of their stony crevices, sometimes in great abundance, and are strikingly different in appearance from every other British plant of the same family, looking, when young, more like the leaves of the umbelliferous tribe. The fructi-

fication is perfected in July, but "if the fear the yellow leaf"



May 1 1803 Published by J. G. Smith & Co. London



ADIANTUM Capillus Veneris.

True Maidenhair.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* in roundish, marginal, distinct dots. *Involucra* like scales, from the margin of the frond turned in, distinct, opening inwards.

SPEC. CHAR. Frond doubly compound; leaflets alternate, stalked, wedge-shaped, lobed.

SYN. *Adiantum Capillus Veneris*. Linn. *Sp. Pl.* 1558.
Sm. Fl. Brit. 1138. *Huds.* 460. *With.* 781.
Hull. 243. *Lightf.* 679. *Bolt. Fil.* 24, t. 29.
Dicks. H. Sicc. fasc. 6. 16.
Capillus Veneris verus. Dill. in *Raii Syn.* 123.

THIS rare and most elegant fern was gathered in the south islands of Arran near Galloway last October by Mr. J. T. Mackay. We are indebted to that gentleman, and to Dr. Scott of Dublin, for fine wild specimens.

Nothing can be more beautiful than this *Adiantum* when growing among trickling rills in the crevices of shady rocks, which it overhangs in the most graceful manner. The roots are perennial, fibrous, tufted and shaggy. Stalks from 6 to 12 or 15 inches high, slender, smooth, of a purplish shining black. Branches alternate, capillary, of the same colour. Leaflets alternate, wedge- or fan-shaped, smooth, thin, veiny, dilated upwards and unequally lobed, their summits turned back, as it were, in the form of brown scales, each of which covers a small congeries of capsules.





STATISTICAL

REPORT

1870

THE
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY
 WASHINGTON
 1870

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 GEOLOGICAL SURVEY
 WASHINGTON
 1870

CYATHEA fragilis.

Brittle Cup-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without a cover.

SPEC. CHAR. Frond bipinnate: its leaflets pinnatifid, sharply and deeply serrated. *Fructifications* a little distant. Calyx torn. Common stalks winged.

SYN. *Cyathea fragilis*. *Sm. Fl. Brit.* 1139. *Sym.* 194. *Roth. Fl. Germ. v. 3.* 94.

Polypodium fragile. *Linn. Sp. Pl.* 1553. *Huds.* 459. *With.* 779. *Hull.* 240. *Lightf.* 677. *Dicks. Dr. Pl.* 15. *Bolt. Fil.* 50. t. 27, & 46.

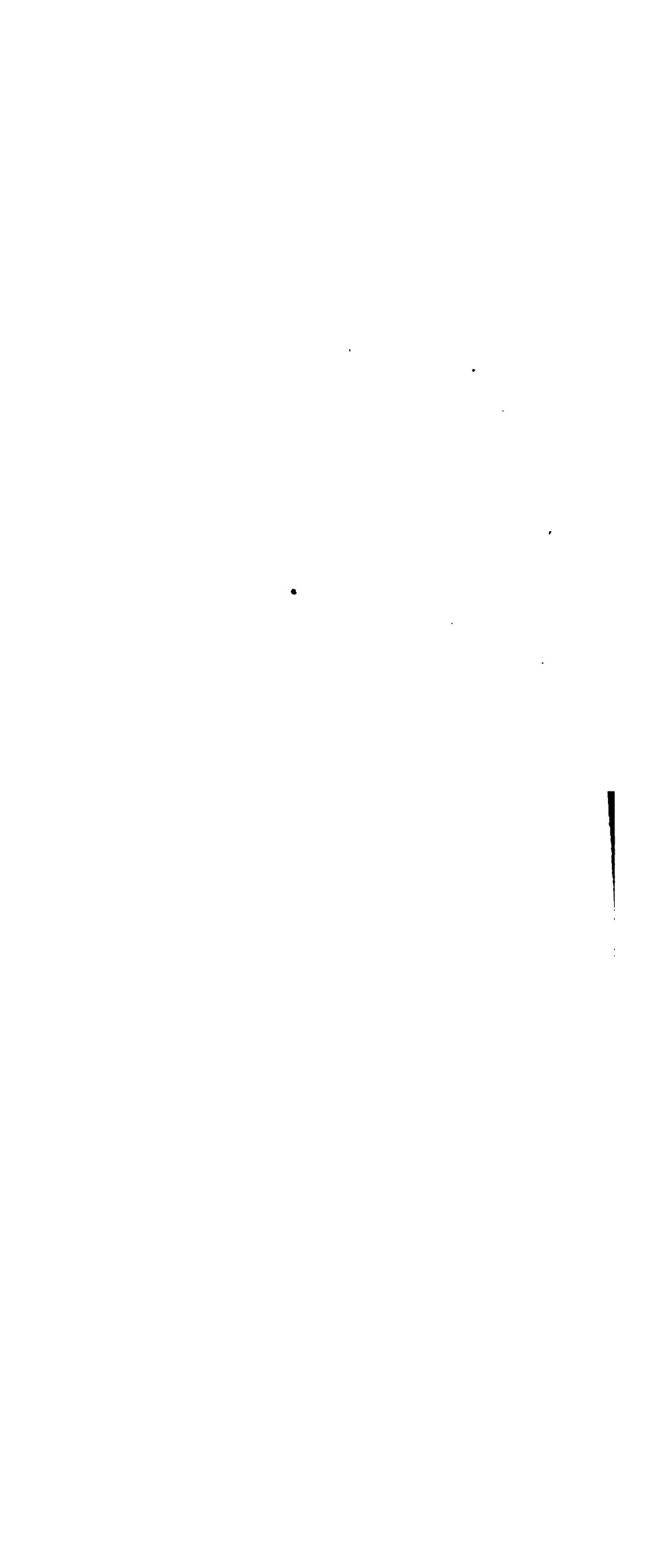
Filix saxatilis, caule tenui fragili. *Raii Syn.* 125.

ABUNDANT in the mountainous parts of Britain, growing on moist shady rocks, or old buildings, to which it is a great ornament in the summer months.

Root perennial, tufted, crowned with brown scales. Fronds from 4 inches to a foot high, delicate and tender, each with a smooth juicy brittle blackish stalk. The frond itself is lanceolate, acute, smooth, bright green, doubly pinnate. Leaflets alternate, cut, most frequently pinnatifid, sometimes obovate, more generally lanceolate, sharply and deeply serrated, pointed, their nerves more or less wavy. General and partial stalk bordered with a narrow wing. Dots of fructification numerous, alternate, round, brown or black, not confluent except when old. Involucrum or calyx cup-shaped, embracing the capsules underneath, bursting laterally, jagged, at length reflexed and obliterated.

No fern varies more in the number, form and breadth of its subdivisions. When large, most compound, and finely cut, it is the *Polypodium rheticum* of British writers. When smaller and less compound, it is, according to the Rev. H. Davies, the *P. ilvense* of Ray's *Synopsis* 117.





CYATHEA incisa.

Laciniated Cup-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fruifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without an operculum. *Smith Mem. of the Turin Acad. vol. 5.*

SPEC. CHAR. Frond lanceolate, bipinnate, pinnatifid; its segments lobed, obtuse, and beardless. Stalk slightly winged. Calyx lacerated, and turned to one side.

WE received this fern from a wall near Walthamstow, where it was found by Mr. T. F. Forster jun. who thinks it distinct from *Cyathea fragilis* (*Polypodium fragile* of Linnæus). We dare not positively assert it to be so, but rather offer it for the consideration of botanists conversant with this intricate tribe. The chief difference consists in the divisions of the leaves of our fern being obtuse, and perfectly destitute of the bristly point observable in the other. There is also some difference in their habit and appearance, and the fructification of the *fragilis* is blacker. We have been inclined to believe ours the *P. regium* of Linnæus; but the original specimen of that in the Clifortian herbarium has a triangular, not lanceolate, frond. Neither is ours *P. alpinum* of Jacquin, the divisions of which are linear, or nearly so.

With respect to the generic character, we hope to give a more clear idea of it in figuring *C. fragilis*, as in this the parts are too minute, and the structure too obscure; but it is essential to the genus that the young capsules are enveloped in a globular membrane, which goes underneath them, and bursts either at the top, in an even or lacerated manner, or at the side (fig. 1.) as in this species and some others.

In some specimens the fronds are broader and more dilated than those we have drawn.



J. Kandy del. F. J. 1794



[1588]

CYATHEA dentata.

Toothed Cup-fern.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without a cover.

SPEC. CHAR. Frond bipinnate: its leaflets ovate, obtuse, deeply and bluntly toothed, pointless.

SYN. *Cyathea dentata*. Sm. *Fl. Brit.* 1141.

Polypodium dentatum. Dicks. *Crypt. fasc.* 3. 1. t. 7.

f. 1. *H. Sicc. fasc.* 5. 16. *With.* 776. *Hull.* 238.

FOUND only in the clefts of alpine rocks on the highest mountains of Scotland and Wales. Our specimen was communicated by the Rev. H. Davies from the last mentioned country. It grows at the foot of the walls of Castle Dinas Bran, Flintshire. Mr. Griffith has sent us fine specimens from Snowdon. In July it is in perfection.

This is generally smaller than the *C. fragilis*, and the frond less compound, being sometimes scarcely bipinnate. The specimen in our plate exhibits its most perfect form, which is bipinnate; the leaflets ovate, obtuse, very deeply but bluntly toothed, the teeth and termination quite destitute of any point or bristle. The main nerve of each leaflet is zigzag. The common stalk is winged towards the top only. Its base is mostly smooth, sometimes shaggy. Dots of fructification large, and soon becoming entirely confluent.

Some differences of opinion have arisen among botanists on the continent concerning my genus of *Cyathea*, for want, as I apprehend, of their being acquainted with all the species, in their different states, which form a chain from *C. arborea* to these small ones. The character consists in the calyx or involucre, whether of 1 piece or of many, going entirely under the globular receptacle to which the capsules are fixed.



Sp. Pl. L. Ed. Published by J. G. Smith, London.

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HYMENOPHYLLUM Tunbridgense.
Tunbridge Filmy-leaf.

CRYPTOGAMIA Filices.

GEN. CHAR. *Frustrifications* inserted into the margin of the frond, distinct. *Involucrum* two-valved, flat-tish, straight, opening outwards, longer than the *Column*. *Smith Mem. of the Turin Acad.* vol. 5.

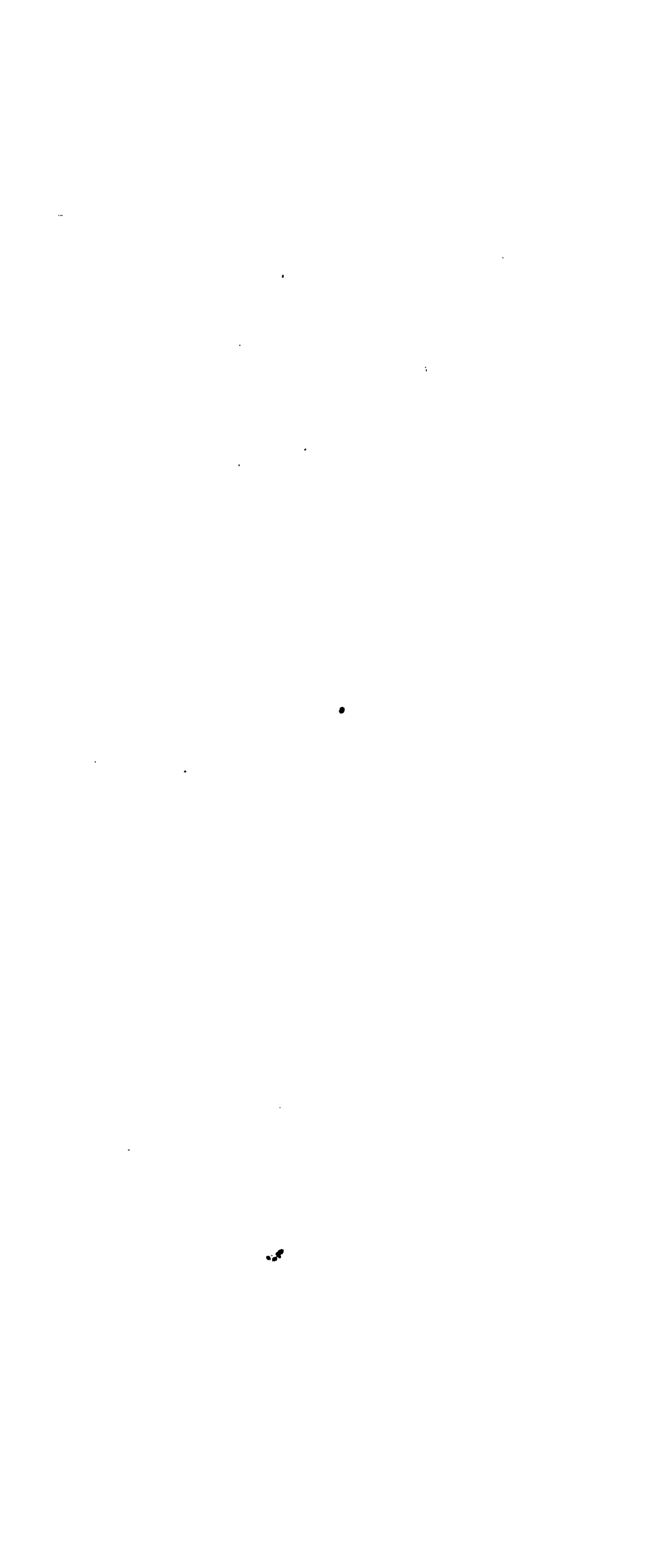
SPEC. CHAR. Fronds alternately bipinnate, decurrent, sharply serrated as well as the involucrum. Frustrifications solitary at the upper edge of the base of each general division of the frond.

SYN. *Trichomanes Tunbridgense. Linn. Sp. Pl.* 1561.
Hedl. F. Ar. 461. *Wisk. Bot. Arr.* vol. 3. 65.
Adiantum petraeum perpusillum Anglicum, foliis bifidis vel trifidis. Rost. Syn. 123.

GATHERED near Tunbridge by Mr. T. F. Forster jun. It grows also in Wales, Westmoreland, and the north parts of Yorkshire, on horizontal moist rocks, which it clothes in large tufts. Mr. Lightfoot mentions this species as common in Scotland. The slender wiry roots spread very far, throwing out fibres here and there, and producing numerous upright leaves or fronds, which when sometimes dried up in summer curl backwards. Their substance is extremely membranous and pellucid, appearing finely reticulated under a microscope,







[1417]

HYMENOPHYLLUM alatum.

Wing-stalked Filmy-leaf.

CRYPTOGAMIA Filices,

GEN. CHAR. *Fructifications* inserted into the margin of the frond, distinct. *Involucrum* 2-valved, flattish, straight, opening outwards, longer than the *column*.

SPEC. CHAR. Fronds tripinnate, lobed, decurrent; segments linear, bluntish, entire. Main stalk and branches winged. Fructifications oblong, crenate, solitary at the upper edge of the base of each subdivision of the frond.

SYN. *Hymenophyllum Tunbrigense* β. *Sm. Fl. Brit.* 1142.

Trichomanes pyxidiferum. *Huds.* 461. *Bolt. Fil.* 56. t. 30. *With.* 781. *Hull.* 243.

T. *Tunbridgense* var. 3. *With.* 782. *Hull.* 244.

Filix humilis repens, foliis pellucidis et splendentibus, caule alato. *Dill. in Raii Syn.* 127. t. 3. f. 3, 4.





PILULARIA globulifera.

*Pill-wort, or Pepper-grass.*CRYPTOGAMIA *Miscellanea.*

GEN. CHAR. *Common Receptacle* globose, with four cells and four valves, lined with numerous *antheræ*, and many globose *germens* beneath them.

SPEC. CHAR. - - - -

SYN. *Pilularia globulifera.* Linn. *Sp. Pl.* 1563. Hudf. 462. *With.* 760.

Graminifolia palustris repens, vasculis granorum piperis æmulis. Raii *Syn.* 136.

SENT from near Yarmouth by Mr. D. Turner. It grows in watery places on gravelly or sandy heaths, as at St. Faith's Newton near Norwich, as also on Hillingdon common and Hounslow heath, though by no means a general plant, for it is not mentioned in the Cambridge or Oxford Floras.

The stem is perfectly prostrate and trailing, throwing out numerous roots (supposed to be perennial) by which it creeps to a considerable extent. Leaves simple, upright, awl-shaped, narrow and smooth. Fructification resembling pepper-corns, but downy, sessile, solitary, axillary, produced from May to the end of Autumn. What at first sight seems a capsule, is, in fact, a hollow receptacle, as in the fig, which separates into four valves, and is internally divided into as many cells. The valves are lined with organs of fructification, several sessile club-shaped *antheræ* being in the upper part, and about as many oblong *germens* occupying the lower. Jussieu says the *antheræ* are most numerous. He also remarks that the seeds are coated. Mr. Sowerby found the *germens* shaped like an acorn reversed, and terminating in a small acute style.

From the above description it appears that the *Pilularia* has almost as good a right to a place among the perfect flowers as the fig, and might perhaps be ranged in the *Monæcia Polyandria*. In habit and sensible qualities it has most affinity with the *Equisetum*, *Lycopodium*, and other plants of obscure fructification, which are akin to the proper Ferns.



Pinus sylvestris L.



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201

[1084]

ISOETES lacustris.

Quillwort.

CRYPTOGAMIA Filices.

GEN. CHAR. Male within the base of the inner leaves.
Anthera solitary, standing on a heart-shaped receptacle.

Female within the base of the outer leaves. *Germen* standing on a heart-shaped receptacle. *Capsule* membranous. *Seeds* many, angular, rough.

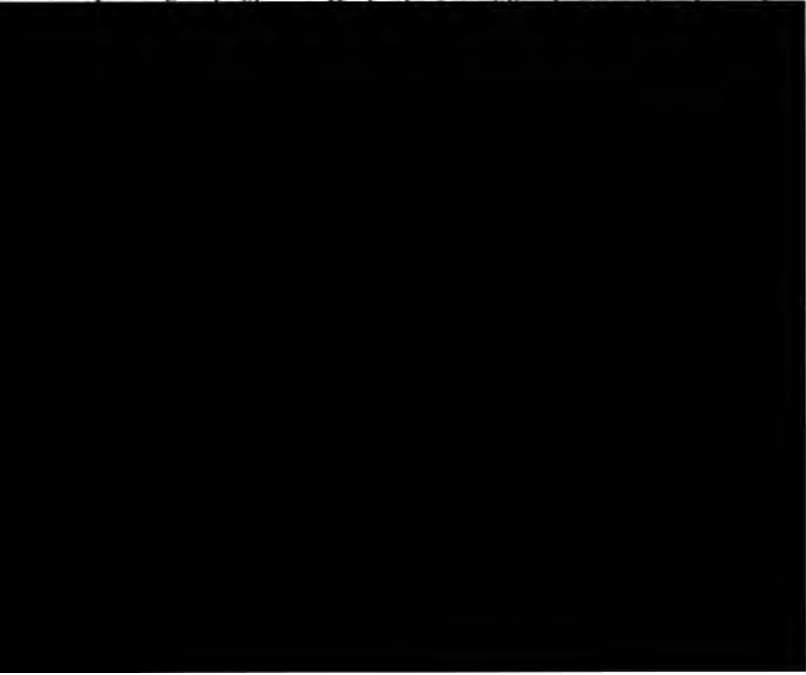
SPEC. CHAR. Fronds awl-shaped semicylindrical. Capsules roundish, of two cells. Seeds granulated all over.

SYN. *Isoetes lacustris*. Linn. *Sp. Pl.* 1563. *Hudf.* 462. *Witb.* 760. *Hull.* 245. *Lighf.* 683. *Bolt. Fil.* 74. t. 41.

Calamaria folio brevior et crassior. Dill. *Musc.* 540. t. 80. f. 1.

Subularia vulgaris erecta, folio rigidissimo. Rar. *Syn.* 306.

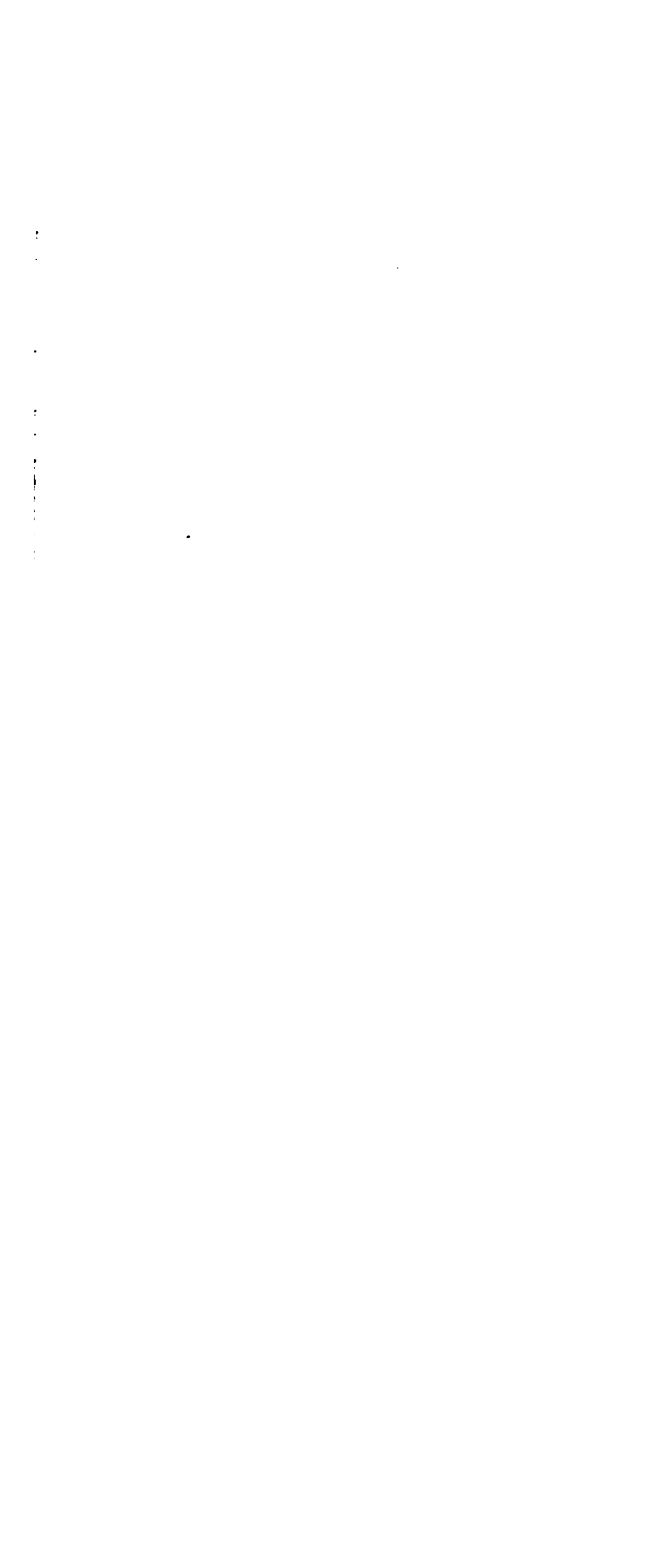
QUILLWORT is only found under water about the margins of the most alpine British lakes, where it bears its fructification early in summer. We have received it from Mr. G. Donn, and from our late much esteemed friend Mr. J. Mackay. The root is perennial, tuberous, throwing out many



1084.



Del. & sculp. by J. Smith, London.



SPHAGNUM latifolium.

Broad-leaved Bog-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Veil* cut round, its base remaining on the base of the capsule. *Antheræ* surrounded with a ring.

SPEC. CHAR. Branches bent downwards, swelling. Leaves ovate, obtuse, concave.

SYN. *Sphagnum latifolium.* Hedw. *Sp. Musc.* 27. Sm. *Fl. Brit.* 1145. Turn. *Musc. Hibern.* 5.

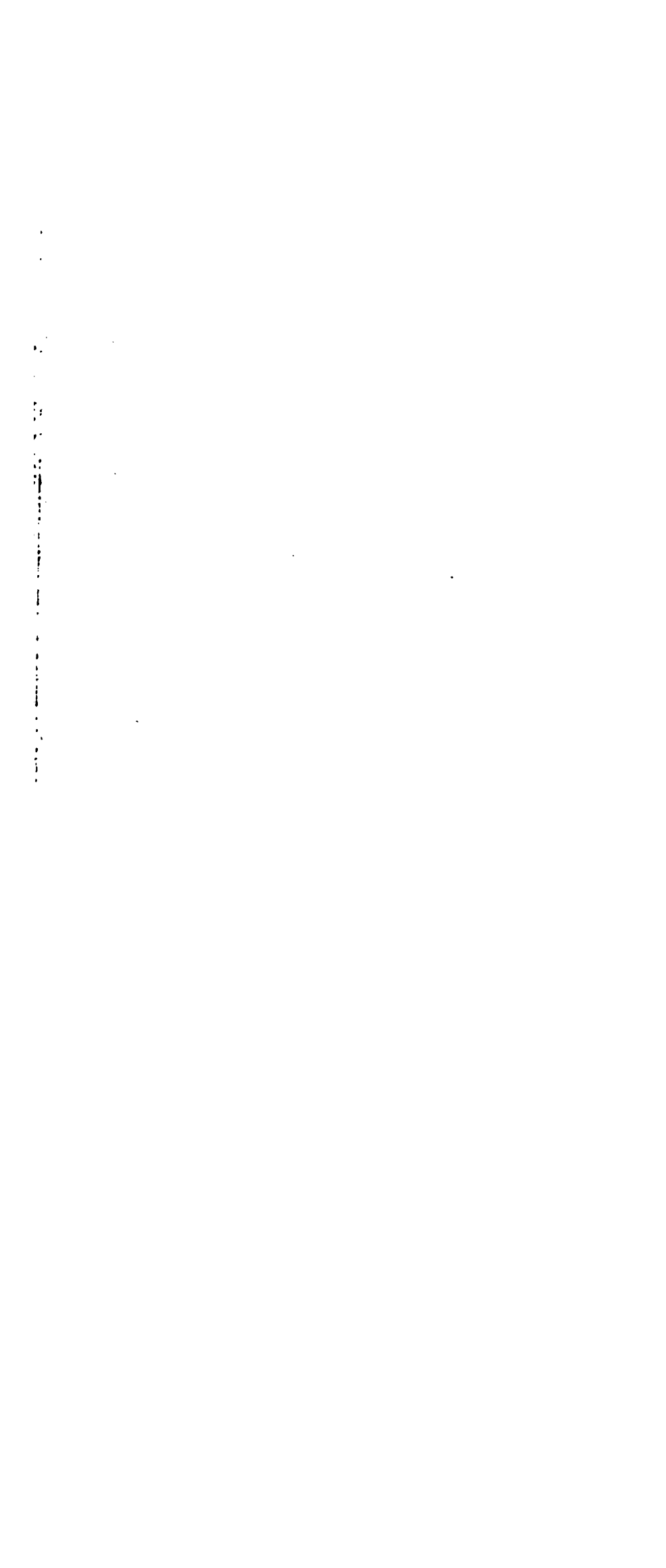
S. palustre α. Linn. *Sp. Pl.* 1569. Huds. 465. With. 783. Hull. 243. Relh. 412. Sibth. 273. Abbot. 228.

S. palustre molle deflexum, squamis cymbiformibus. Dill. *Musc.* 240. t. 32. f. 1.

S. cauliferum et ramosum palustre molle candicans, reflexis ramulis, foliis latioribus. Dill. in Raii *Syn.* 104.

THIS moss, in large soft elastic spongy tufts, covers the surface of watery turfy bogs, and is rendered conspicuous by its pale whitish-green colour, often tinged with red. The places it covers can seldom be walked upon with safety; and





SPHAGNUM squarrosum.

Prominent-leaved Bog-moss.


CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Veil* cut round, its base remaining on the base of the capsule. *Antheræ* surrounded with a ring.

SPEC. CHAR. Branches bent downwards, tapering. Leaves ovate, acute, with recurved, prominent, keeled points.

SYN. *Sphagnum squarrosum.* *Mohr. Ind. 2.*

NO author, as far as we are informed, has described this *Sphagnum*. It is merely mentioned in Mr. Mohr's *Index Musei Plant. Crypt.* by the above name, under which denomination we formerly received specimens gathered in *Hercynia* by our late much esteemed friend Dr. H. A. Noehden of





Adiantum species

SPHAGNUM capillifolium.

Slender Bog-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Veil* cut round, its base remaining on the base of the capsule. *Antheræ* surrounded with a ring.

SPEC. CHAR. Branches slender, bent downward. Leaves ovato-lanceolate, pointed, flattish, close-pressed.

SYN. *Sphagnum capillifolium.* *Hedw. Sp. Musc.* 23. *Sm. Fl. Brit.* 1146. *Turn. Musc. Hibern.* 6.

S. palustre β. *Linn. Sp. Pl.* 1569. *Huds.* 465. *With.* 783. *Hull.* 245.

S. palustre molle deflexum, squamis capillaceis. *Dill. Musc.* 243. t. 32. f. 2. A.

S. cauliferum et ramosum palustre molle candicans, reflexis ramulis, foliis angustioribus. *Dill. in Raii Syn.* 104.

NOT less abundant than the foregoing on bogs in rather mountainous places, and bearing fruit at the same season. It agrees with that in colour, but is more frequently tinged red, especially when in a dwarf state. The branches are much more slender, and generally more pendulous; at least the very slender close-pressed branches are in this species more numerous. The leaves afford a most certain distinction, being smaller, narrower, almost flat, tipped with a sharp point which varies in length. Capsule ovate, its stalk generally longer than in the last.

Mr. J. Sowerby has observed the reticulations of the leaves to be very different from those of the preceding, the little transverse veins running in pairs. A fold or keel like a nerve is frequently perceptible.



Polytrichum commune L. f. *complanatum* L.

SPHAGNUM cuspidatum.
Long-leaved Floating Bog-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* sessile, without a fringe. *Veil* cut round, its base remaining on the base of the capsule. *Anthers* surrounded with a ring.

SPEC. CHAR. Branches spreading rather downwards. Leaves lanceolate, long-pointed, waved, lax.

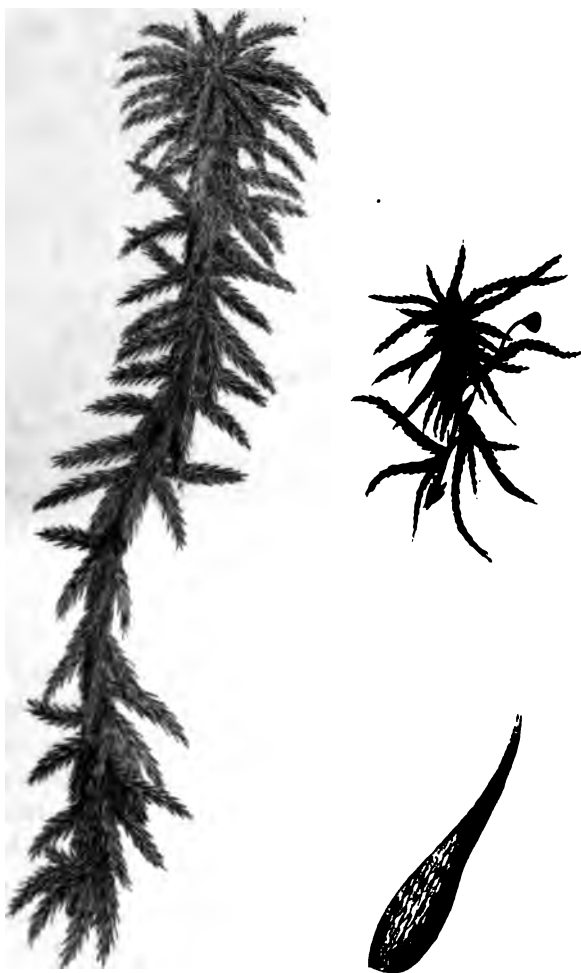
SYN. *Sphagnum cuspidatum.* *Hoffm. Germ. v. 2. 22.* *Sm. Fl. Brit. 1147.* *Ehrh. Crypt. 251.* *Turn. Musc. Hib. 6.*

S. palustris mollis deflexi, squamis capillaceis, varietas fluitans. *Dill. Musc. 244. t. 32. f. 2. B.*

MOST usual in mountainous countries, but Mr. Turner gathered our specimen near Yarmouth. It grows floating in pools and rivulets, bearing capsules in the middle of summer. For one of these, being of rare occurrence, we have had recourse to a German specimen.

The colour is a pale greenish grey, like the more common species, *t. 1403, 1406*; but the stems are much more elongated







[1596]

BUXBAUMIA aphylla.

.Naked-stalked Buxbaumia.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, oblique, gibbous on one side.

Outer fringe obsolete: inner membranous, plaited.

SPEC. CHAR. Capsule on a granulated stalk, rising from a hairy bulb.

SYN. Buxbaumia aphylla. Linn. Sp. Pl. 1570. Turn.

Musc. Hib. 104. Wade Pl. Rar. Hib. cum Ic.

Fl. Dan. t. 44. Ehrh. Phyt. 10.

B. caulescens. Schmid. Buxb. 25. t. 1. f. 1—25.

Muscus capillaceus aphyllus, capitulo crasso bivalvi.

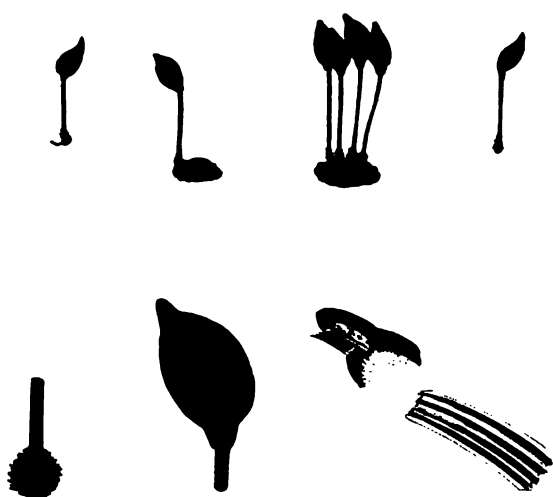
Buxb. Cent. 2. 8. t. 4. f. 2. Dill. Musc. 477.

t. 68. f. 5.

THIS curious moss, discovered by Buxbaum near Astracan, and since found in Sweden, Germany and Switzerland, was first mentioned as a native of Ireland by Dr. Wade. No one had observed it in Britain, though it might reasonably be expected here, till Mr. William Jackson Hooker, a young naturalist of great promise, brought me growing specimens, towards the end of December 1805, from a plantation at Sprowston, not 3 miles from Norwich on the borders of Moushold heath, where the soil is of a turfy and sandy nature. About half a score plants only have as yet been detected, though some of the most acute botanists of my acquaintance have been at the spot.

The root is presumed to be annual, and bears a bulb or knob clothed with brown hairs, which are perhaps equivalent to leaves, and among which the stamina are naturally to be expected, but no one has yet observed them. From this bulb rises a solitary, red, granulated, simple stalk, half an inch or more in height, bearing an elliptical oblique shining capsule, more or less green or red, the upper side of which shows the seeds through a semitransparent coat, the cavity in which they are lodged being oblique and lateral. The veil we have not seen. The lid is red, conical, short and obtuse. Inner fringe a plaited undivided membrane; outer, as figured by Hedwig, of 16 short blunt teeth, which look like the lacerated remains of the lid, and which do not appear in our specimens. Schmidel's exquisite figures countenance our ideas on this subject.

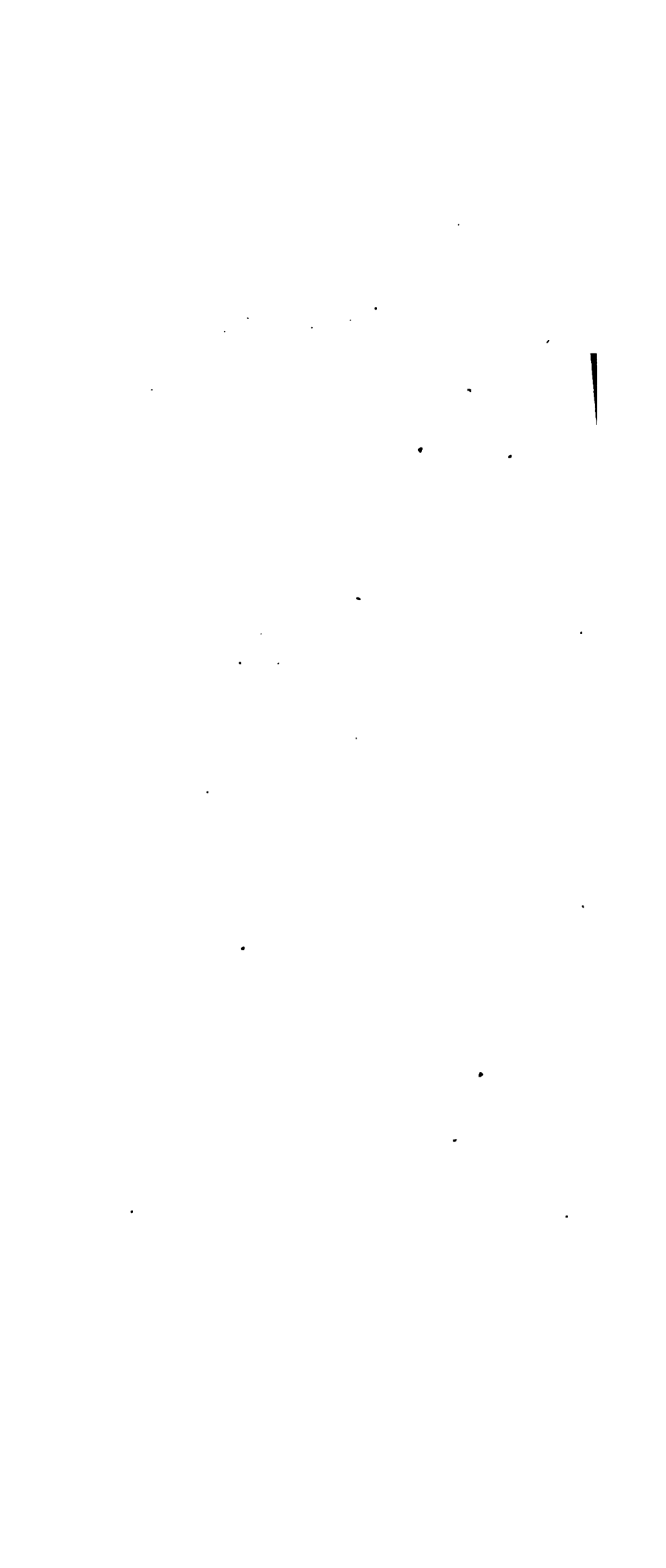
1596



May 1 1906 Published by the University of California

v





BUXBAUMIA foliosa.

Leafy Buxbaumia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* oblique, membranous on one side, gibbous on the other, with a lid. *Veil* deciduous.

SPEC. CHAR. Stem none. Capsule nearly sessile, surrounded with leaves.

SYN. *Buxbaumia foliosa*. *Linn. Fil. Meth. Musc.* 33. *t.* 1. *f.* 4. *With. Bot. Arr. v.* 3. 77. *Dicks. H. Sicc. fasc.* 2. 20.

Phascum montanum. *Huds. Fl. An.* 466.

P. maximum. *Lightf. Scot.* 693.

Sphagnum acaulon maximum, foliis in centro ciliatis, *Dill. Musc.* 253. *t.* 32. *f.* 13.

OUR specimens of this rare moss were gathered by T. F. Forster, jun. Esq. in September 1794, on the rocks near Ham-sil forge (commonly called Harrison's rocks), and on Eridge rocks, Sussex, near Tunbridge-Wells.

It grows in little patches on the upright stone, but each plant is separate from the rest, consisting of several erect leaves, the inner ones long-pointed, embracing a solitary nearly sessile capsule, which is oblique, the top pointing upwards; its orifice is ciliated with several white permanent teeth. Lid conical, with a little constriction in the middle. The veil we have not seen. The obliquity of the capsule forms its most obvious generic character.



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PHASCUM subulatum.

Awl-leaved Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous, Veil minute, deciduous.

SPEC. CHAR. Stem simple. Capsule on a short stalk. Leaves awlshaped, spreading; dilated at the base; capillary at the point.

SYN. Phascum subulatum. Linn. Sp. Pl. 1570. Sm. Fl. Brit. 1149. Hedw. Sp. Musc. 19. Crypt. v. 1. 93. t. 35. Huds. 466. With. 785. Hull. 251. Relh. 412. Sibth. 272. Abbot. 229. Curt. Lond. fasc. 4. t. 67. Ehrh. Crypt. 182. Turn. Musc. Hib. 1.

Sphagnum acaulon trichodes. Dill. Musc. 251. t. 32. f. 10.

FREQUENT and abundant in shady hollows of sandy banks in woods or on heaths, bearing fruit in the early spring.

The roots are fibrous and annual. Plants forming rather loose velvet-like patches, of a lightish green hue. Stem scarcely one eighth of an inch high, simple, leafy, throwing out roots from the lower part. Leaves imbricated, numerous, spreading, awlshaped, entire, dilated and concave at the base, tapering and somewhat toothed at the point, single-ribbed. Capsule solitary, erect, brown and shining, elliptic-ovate, on a short stalk; the point pale or yellowish.

2177



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PHASCUM axillare.
Lateral-fruited Earth-Moss.

CRYPTOGAMIA Musci.

SPEC. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem simple, leafy. Leaves awl-shaped, keeled, spreading. Fruit-stalk lateral. Capsule elliptical, drooping.

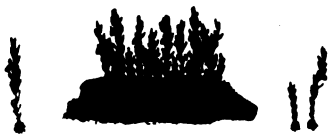
SYN. *Phascum axillare*. *Dickf. Crypt. fasc. 1. 2. t. 1. f. 3.*

P. nitidum. *Hedw. Crypt. v. 1. 91. t. 34. Sp. Musc. 19. With. 787. Hull. 252.*

FIRST discovered by Mr. Dickson in moist places upon heaths. We gathered these specimens in Kensington gardens early in March.

The root is fibrous. Stem solitary, simple, leafy, flowering when about a line in height ; but being immediately extended





June 1 1802. Published by J. L. Sowerby, London.

[1279]

PHASCUM patens.
Spreading Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem short. *Capsule* globular. *Leaves* lanceolate, spreading, serrated towards the top.

SYN. *Phascum patens*. Hedw. *Sp. Musc.* 20. *Crypt.* v. 1. 28. t. 10. Sm. *Fl. Brit.* 1150. Roth. *Germ.* v. 3. 112. Dicks. *Crypt. fasc.* 4. 2.

β. *P. recurvifolium*. Dicks. *Crypt. fasc.* 4. 1. t. 10. f. 2.

SPECIMENS of this little moss have been sent us by Mr. Templeton from Ireland. They were found in August 1800, in a dry drain. It has already been observed in England, on a clay soil in shady places.

The plants grow together in great numbers, but not closely





PHASCUM strictum.

Upright Earth-moss.

CRYPTOGAMIA Musci.


GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem very short. *Capsule* ovate. Leaves awl-shaped, upright, straight, slightly serrated.

SYN. *Phascum strictum*. *Dicks. Crypt. fasc. 4. 1. t. 10. f. 1. Sm. Fl. Brit. 1151.*

MR. DICKSON only seems to have gathered this species of the minute genus *Phascum*, and we are obliged to him for the specimens described in the *Flora Britannica*, and delineated here. He mentions alpine bogs in Scotland as its native station.

The root is annual, fibrous, tufted. Plants not a line in



Y



the 1st of July 1880

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[1888]

PHASCUM piliferum.

Bearded Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem simple or branched. Leaves ovate-oblong, erect, tipped with a bristle. Capsule globose, upright.

SYN. Phascum piliferum. Schreb. Phasc. 8. t. 1. f. 6—10. Sm. Fl. Brit. 1151. Hedw. Sp. Musc. 20. Dicks. Crypt. fasc. 2. 1. Hull. 252.

FOUND in barren places among short grass. Mr. Dickson first observed it near London. Mr. G. Don sent it from near Forfar in North Britain. It is annual, bearing capsules in the early spring, after which it entirely disappears till the following year. Schreber says it prefers a clay soil.



1888



King & Son, Publishers by J. C. Sonnet, London.





[1680]

PHASCUM crispum.
Curled-leaved Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Stem branched. Stem-leaves very small, alternate; the floral ones awlshaped, curled and twisted when dry. Capsules several.

SYN. Phascum crispum. *Hedw. Sp. Musc.* 21. *Crypt.* v. 1. 25. t. 9. *Sm. Fl. Brit.* 1151. *Dicks. Crypt. fasc.* 4. 2. *Turn. Musc. Hib.* 2.

GATHERED near Bedford by the Rev. Dr. Abbot, and communicated to Mr. Sowerby in January 1805. It is annual, bearing fruit in the winter or early spring.

The stems grow in tufts, and are mostly branched, spreading, leafy, about a quarter of an inch high. Leaves light green, often yellowish, entire; the lower ones extremely small, alternate, lanceolate, concave; the upper ones gradually larger and closer: the floral leaves much the largest, clustered, single-ribbed, long-pointed, much curled and twisted when dry; dilated and pale at the base. Capsules few, terminal, nearly sessile, erect, elliptical, with a little oblique point, brown when ripe. Veil with a longish summit.

This being now ascertained as the true *Phascum crispum*, it is necessary to apply the following synonyms and character to our *tab.* 618.

PHASCUM multicapsulare.
Many-fruited Earth-moss.

SPEC. CHAR. Stem branched. Stem-leaves alternate; the floral ones linear-lanceolate, straight. Capsules numerous.

SYN. Phascum multicapsulare. *Sm. Fl. Brit.* 1152.

Ph. sphærocarpon. *Abbot.* 230.

Ph. crispum. *Swartz. Musc. Suec.* 17.

THIS is commonly of a duller green, and has much more numerous capsules. The floral leaves are more lanceolate, not contracting suddenly, and do not curl in the same manner by drying.

1680



Det. 2200. Published by J. J. Sowerby London.

PHASCUM
Curled Clustered Phascum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate, without any separate lid.
Veil minute, deciduous.

SPEC. CHAR. Stem-leaves minute, scattered; floral-leaves clustered, elongated, pointed, incurved, entire.

SYN. *Phascum crispum.* Hedw. *Musc.* v. 1. t. 9.

DISCOVERED at Ampthill, Bedfordshire, in March 1799, by the Rev. Mr. Abbot, to whom we are obliged for this specimen.

From Hedwig's excellent figure and description, there can be no doubt of its being his *P. crispum*, though he describes some of the floral leaves more incurved and contorted than we have found them.

This little moss grows in rather fertile places, especially (as Hedwig says) upon old mole-hills. It flowers in the beginning of winter, and ripens its capsules, with us at least, in April.

The roots are fibrous and much branched. Stems about a quarter of an inch high, simple or branched, spreading, clothed with minute, scattered, entire leaves, and crowned with a thick tuft of much longer, taper-pointed leaves, whose points are often incurved or contorted, especially when dry. The numerous capsules stand almost sessile among these long leaves, and are elliptical, with a minute beak, and a slender tapering veil.

018. |



Desmodium illinoense (L.) Gray, *Silene*

PHASCUM curvicollum.

*Crooked-stalked Earth-Moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. - *Veil* minute, deciduous.

SPEC. CHAR. Stem none. Leaves lanceolate, bearded, spreading. Capsule elliptical, terminal, on a recurved stalk.

SYN. *Phascum curvicollum.* Hedw. *Crypt.* v. 1. 31. t. 11. Dickf. *Crypt. fasc.* 2. 1. H. Sicc. *fasc.* 4. 20. With. 786. Hull. 252. Schrad. *Spicil.* 58.

FOUND on dry grassy spots near Croydon by Mr. Dickson, to whom we are obliged for this specimen.

It grows in patches. The root is formed of numerous fibres. Leaves all radical, lanceolate, entire, furnished with a red prominent midrib, which terminates in a taper beard or *arista*. From the centre of the leaves springs a solitary naked stalk, about their own length, brownish, soon becoming recurved, so as to bury in the earth the fruit it bears, which is a small brown capsule, exactly elliptical, terminated by a short slightly oblique point. The veil is short and conical, soon falling off.

The ripe capsule is to be found about May.

Having in our 5th volume unluckily mistaken another plant for this, which with regard to such minute objects it is hoped may be pardoned, we would wish to change the synonyms and characters given at t. 330, for the following.





PHASCUM curvicollum.

Crinked Phascum.

CRYPTOGAMIA Musci.

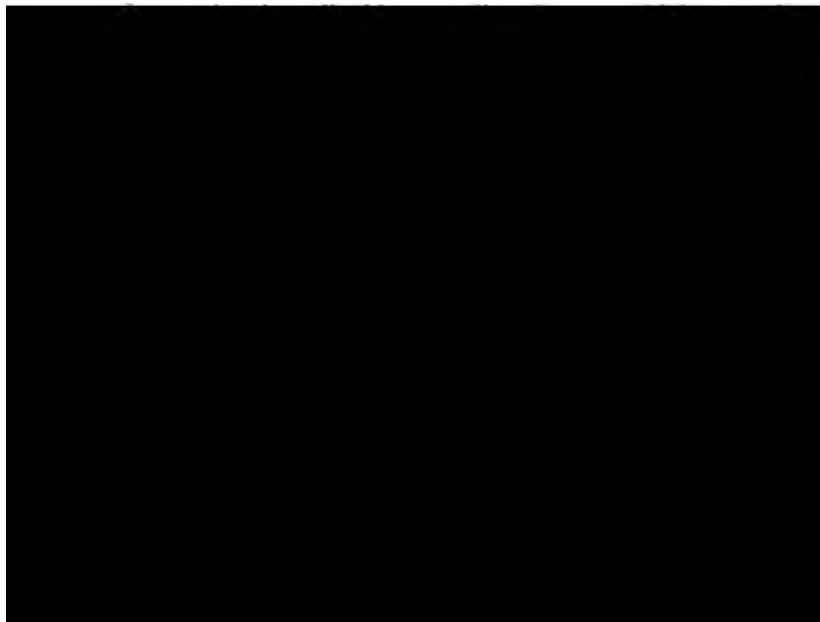
GEN. CHAR. *Capsule with a lid, the mouth ciliated.
Veil minute, deciduous.*

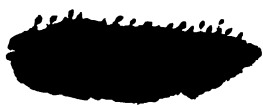
SPEC. CHAR. *Stem none. Capsules on curved stalks.
Leaves ovato-lanceolate, acuminate, spreading.*

SYN. *Phascum curvicollum. Dicks. Crypt. fasc. 2. 1.
With. Bot. Arr. v. 3. 73. Relh. Cant. fasc. 3. 8.*

GATHERED by the Rev. Mr. Hemsted on a dry bank near Newmarket; Mr. Dickson found it on barren grassy spots near Croydon. It ripens its fruit in April or May, and may probably be not uncommon, though so minute as to be rarely perceived.

Each plant is simple, with a fibrous root, a few lanceolate,







PHASCUM bryoides.

Tall Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Fert* minute, deciduous.

SPEC. CHAR. Stem simple. Leaves ovate, hair-pointed, upright. Capsule elliptical, beaked. Fruit-stalk erect, straight.

SYN. *Phascum bryoides*. Dicks. *Crypt. fasc.* 4. 3. t. 10. f. 3. Sm. *Fl. Brit.* 1154.

FOR this singular *Phascum*, whose long stalk gives it so much the appearance of a *Bryum*, we are obliged to the Rev. Dr. Abbot, who found it at Clapham springs, Bedfordshire. Mr. Dickson mentions "heaths and woods" as its natural places of growth, without specifying any particular spot. It is annual, ripening its fruit in the spring.



1. The first part of the document is a list of names and addresses of the members of the committee.

2.



PHASCUM curvisetum.

Short bent-stalked Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Stem very short, nearly simple. Leaves oblong, hair-pointed. Capsule globose. Fruit-stalk very short, bent.

SYN. Phascum curvisetum. Dicks. Crypt. fasc. 4. 2. t. 10. f. 4. Sm. Fl. Brit. 1154. Turn. Musc. Hib. 3.

FOUND by Mr. Dickson in cultivated ground near Croydon, Surrey, in the early spring. The Rev. Dr. Abbot informs us he has gathered the same near Bedford.

The little short stems, sometimes, though rarely, divided, grow in tufts, overtopped by their crowded, ovate-oblong, concave, entire leaves, which stand almost upright, and have each a keel formed by a mid-rib, terminating in a short hair. Fruitstalks terminal, solitary, very short, and soon bent to one side with an angle. Capsule globose with something of a point, smooth, red brown, not rising so high as the leaves, but turned to one side. The veil is whitish, deeply torn, soon cast off, as in others of the genus, because of its own narrow dimensions, and the very tumid capsule.

This is nearly related to *P. cuspidatum*, t. 2025, and still more nearly perhaps to *Schreberianum*, t. 2026, but we believe all the three to be distinct.

2259



Stachys recta L.

[2025]

PHASCUM cuspidatum.
Sharp-leaved Dwarf Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Stem slight. Leaves ovate, concave, hair-pointed; the upper ones folding over each other. Capsule broad-oval, nearly sessile.

SYN. Phascum cuspidatum. Hedw. Sp. Musc. 22. Sm. Fl. Brit. 1155. Relh. 413. Sibth. 273. Abbot. 229. Ehrh. Crypt. 162. Turn. Musc. Hib. 3.

P. acaulon. Linn. Sp. Pl. 1570, α . Huds. 466, α . With. 784. Hull. 251. Curt. Lond. fasc. 4. t. 66. Fl. Dan. t. 249. f. 3.

Sphagnum acaulon bulbiforme majus. Dill. Musc. 251. t. 32. f. 11.

S. acaulon, foliis in bulbi formam congestis, majus. Raii Syn. 105.

COMMON on sandy or gravelly banks, heaths or neglected



2025



June 1 1825 published by J. Shewell-Land



PHASCUM Schreberianum.
Schreberian Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid,
 - deciduous. Feil minute, deciduous.

SPEC. CHAR. Stem elongated and branched. Leaves
 oblong, flatish, hair-pointed, erect. Capsule glo-
 bose, nearly sessile.

SYN. *Phascum Schreberianum.* Dicks. *Crypt. fasc.* 4. 2.
Sm. Fl. Brit. 1155.

P. cuspidatum. Schreb. *Phasc.* 3. t. 1. f. 1—5, ex-
 clusive of the quotation of Dillenius, which belongs
 to our t. 2025.

COMMUNICATED by Mr. William Backhouse, from wet
 barren fields near Darlington, in the spring. Mr. Dickson
 first distinguished this from the moss in our preceding plate,
 from which it seems distinct, though some of our most ob-

servant think that it is a variety caused by luxuriance and



For sale published by J. S. Searby, L. S. N.





P H A S C U M muticum.

Common Dwarf Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Stem none. Leaves ovate, concave, closely imbricated, beardless; the upper ones serrated towards the point. Capsule globose, nearly sessile.

SYN. *Phascum muticum*. Schreb. *Phasc.* 8. t. 1. f. 11—14. Sm. *Fl. Brit.* 1156. Linn. MSS. in *Sp. Pl.* 1570. Hedw. *Sp. Musc.* 23. With. 784. Hall. 251. Ehrh. *Crypt.* 172. Turn. *Musc. Hib.* 3.

P. acaulon β. Linn. *Sp. Pl.* 1570. Huds. 466.

Sphagnum acaulon bulbiforme minus. Dill. *Musc.* 252. t. 32. f. 12.

S. acaulon, foliis in bulbi formam congestis, minus. Dill. in Raii *Syn.* 105.

VERY common upon sandy banks and heaths in winter and early spring. It is an extremely small species, though larger

2627



Fossilized plant structure

100

PHASCUM ferratum.

Serrated Phascum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid.
Tail minute, deciduous.

SPEC. CHAR. Shoots capillary, jointed, branched.
Capsule surrounded with lanceolate serrated leaves
 rising above it.

SYN. *Phascum ferratum*. *Dicksf. Crypt. fasc.* 1. t. 1. f. 1.
Wub. 785.

THIS minute vegetable, hardly visible to the naked eye, was first discovered in England by Mr. Dickson, on the north side of Muswell-hill near Highgate. Our specimens were gathered in Cambridgeshire, by the Rev. Mr. Hemsted, in March last.

It forms tufts of pellucid green jointed filaments, very much resembling a *Byssus* at first sight, but, when highly magnified, as in our figure, assuming the appearance of a *Conferus*. From





PHASCUM stoloniferum.

Branching-rooted Earth-moss.

CRYPTOGAMIA Musci.


GEN. CHAR. Capsule ovate, without any separate lid, deciduous. Veil minute, deciduous.

SPEC. CHAR. Shoots creeping, jointed, branched. Leaves ovato-lanceolate, pointed, toothed.

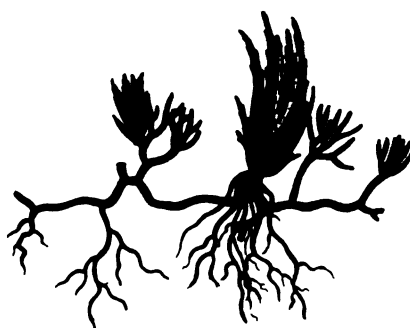
SYN. Phascum stoloniferum. Dicks. *Crypt. fasc.* 3. 1. t. 7. f. 2. Sm. *Fl. Brit.* 1157. Hedw. *Sp. Musc.* 24. With. 786. Hull. 252.

Ph. serratum β . Turn. *Musc. Hib.* 4.

FIRST discovered by Mr. E. Forster in the neighbourhood of Walthamstow. Our specimens were communicated by Mr. G. Don from Scotland. It grows on naked clay in damp places, and is presumed to be perennial. The capsules are ripened in April.



2106



Form. 1911. seedling held by J. A. Harvey, London



PHASCUM alternifolium.
Alternate-leaved Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule ovate, without any separate lid, deciduous. *Feil* minute, deciduous.

SPEC. CHAR. Stem branched. Branches simple; the barren ones longest and ascending. Leaves awl-shaped, alternate.

SYN. *Phascum alternifolium.* Dicks. *Crypt. fasc.* 1. 2. t. 1. f. 2. Sm. *Fl. Brit.* 1157. Hedw. *Sp. Musc.* 24. Wüh. 736. Hull. 252. Relh. 413. Abbot. 229.

OUR specimens were gathered in moist spots upon Epping forest by Mr. E. Forster, but the plant has been found in various parts of the midland counties. It is annual, bearing

Fruit in April.





... ..

[1975]

GYMNOSTOMUM truncatulum.

*Little Blunt-fruited Beardless-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Leaves ovate, pointed, flat, entire. Cap-
 sule top-shaped, with a dilated mouth.

SYN. *Gymnostomum truncatulum.* *Hoffm. Germ.*
v. 2. 27. *Sm. Fl. Brit.* 1158. *Sibth.* 274. *Turn.*
Musc. Hib. 7. *t.* 1. *f.* d—f.

G. truncatum. *Hedw. Sp. Musc.* 30. *Crypt. v.* 1. 13.
t. 5.

Bryum truncatulum. *Linn. Sp. Pl.* 1584. *Huds.*
 477. *With.* 818. *Hull* 258. *Relh.* 424. *Abbot.*
 242. *Curt. Lond. fasc.* 2. *t.* 71.

B. exiguum, creberrimis capsulis rufis. *Dill. Musc.*
 347. *t.* 45. *f.* 7. F—K.

B. parvum, erectis subrotundis majusculis capitulis
subfuscis, foliis serpilli pellucidis. *Dill. in Raii*
Syn. 93.

FREQUENT about banks, dry ditches, and fallow fields,
 bearing fruit early in the spring.

1975



... .. Published by the London.



[1976]

GYMNOSTOMUM intermedium.

Longer Blunt-fruited Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Leaves ovato-lanceolate, pointed, flat, entire. Capsule elliptic-oblong, obtuse.

SYN. *Gymnostomum intermedium*. *Sm. Fl. Brit.* 1159. *Turn. Musc. Hib.* 7. t. 1. f. a—c.

Bryum truncatum. *Ehrh. Crypt.* 14.

B. exiguum, *creberrimis capsulis rufis*. *Dill. Musc.* 347. t. 43. f. 7. A—E.

B. exiguum, *erectis parvis subrotundis creberrimis capitulis rufis, foliolis serpilli angustis pellucidis*. *Dill. in Raii Syn.* 94.

WHAT escaped the great Hedwig it may seem presumptuous to decide upon as obvious, and yet we cannot hesitate to consider this as a very distinct species from *G. truncatum*, as Mr. Turner and Mr. Dickson have long ago done. Dillenius indeed discriminated them as varieties, but Mr. Turner thinks Hedwig confounded them entirely, and moreover that all his figures of *truncatum*, except f. 12, belong to the present plant. To this we can scarcely assent, and we have sometimes presumed to doubt Mr. Turner's own figure of *intermedium*. However that may be, we are indebted to him for the specimens here delineated, which agree with our own.

This species is very common on heaths and banks, growing more in tufts than the preceding, which it also exceeds in size, and its colour is rather paler. The leaves are narrower, more incurved and closed together by drying, and the fruit-stalk is longer. The capsule is nearly elliptical, or rather truly ovate, without any dilatation of the mouth, and not by any means top-shaped. Lid scarcely half so long as the capsule, obtusely-pointed, slightly curved.—This moss varies considerably in size. Sometimes it is smaller than *G. obtusum*, t. 1407, sometimes larger, but the capsule is never so short and abrupt, the fruitstalk so strong and thick, nor the leaves so straight, or strongly ribbed.



John J. Sullivan, President of the New York State Bar Association





GYMNOSTOMUM obtusum.

Dark Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Leaves ovate-oblong, acute, flat, mostly
 entire. Capsule obovate, obtuse. Lid awl-shaped.

SYN. *Gymnostomum obtusum.* *Hedw. Sp. Musc.* 34.
t. 2. f. 1—3. *Sm. Fl. Brit.* 1159. *Turn. Musc.*
Hibern. 9. *t. 1. f. g—i.*

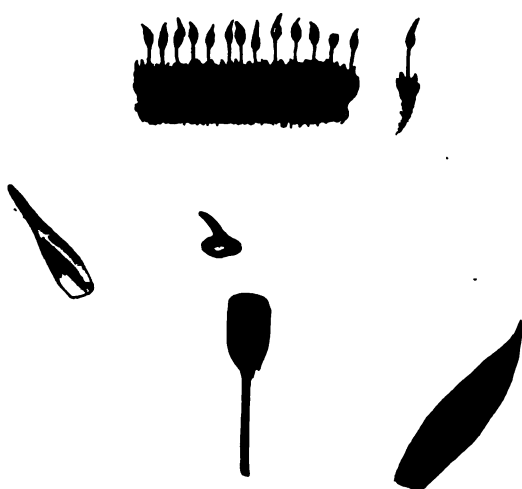
Bryum obtusum. *Dicks. Crypt. fasc.* 2. 5. *t. 4. f. 7.*
With. 811. *Hull.* 256.

THIS little moss was found by Mr. Dickson, its original observer, on the highland rocks and stones of Scotland. It is not however confined to that country, but, thriving in a barren sandy soil, is extremely common about Yarmouth. We are obliged to Mr. Turner and Mr. Teesdale for specimens. The fruit ripens in June. The root is believed to be annual.

This is not quite so small as the common *G. truncatulum*. It grows like that in large patches, the stems being very short, and generally simple. Leaves oblong, inclining to ovate or elliptical, flat, acute, beardless, generally quite entire; sometimes we have thought them slightly toothed. They have a strong brownish midrib, but are otherwise of a dark dull green, turning pale and brownish by age. Fruit-stalk firm and rather stout for its short height, which is but little more than that of the stem, red, straight. Capsule red-brown, upright, obovate, or rather elliptical with a wide mouth, as if abruptly cut off. Lid very slightly convex, with an awl-shaped, curved, bluntish point, somewhat shorter than the capsule itself. Veil cylindrical, brownish.

One of Mr. Dickson's Scottish specimens has a more taper elongated fruit-stalk, and paler leaves, than ours generally bear.

1407



Not a seed. Published by J. L. Sowerby, London.



[1889]

GYMNOSTOMUM ovatum.

Hairy-leaved Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.


SPEC. CHAR. Leaves ovate, obtuse, entire, concave,
tipped with a bristle. Capsule ovate.

SYN. *Gymnostomum ovatum.* *Hedw. Sp. Musc.* 31.
Crypt. v. 1. 16. t. 6. Sm. Fl. Brit. 1160. *Sibth.*
274. *Turn. Musc. Hib.* 9.

Bryum ovatum. *Dicks. Crypt. fasc.* 2. 4. *H. Sicc.*
fasc. 3. 20. *With.* 811. *Hull.* 256. *Relh.* 424.
Abbot. 240.

Muscus coronatus minimus, foliolis et capitulis oblongis
in pediculis brevissimis. *Moris. v. 3. 631. sect. 15.*
t. 7. f. 18.

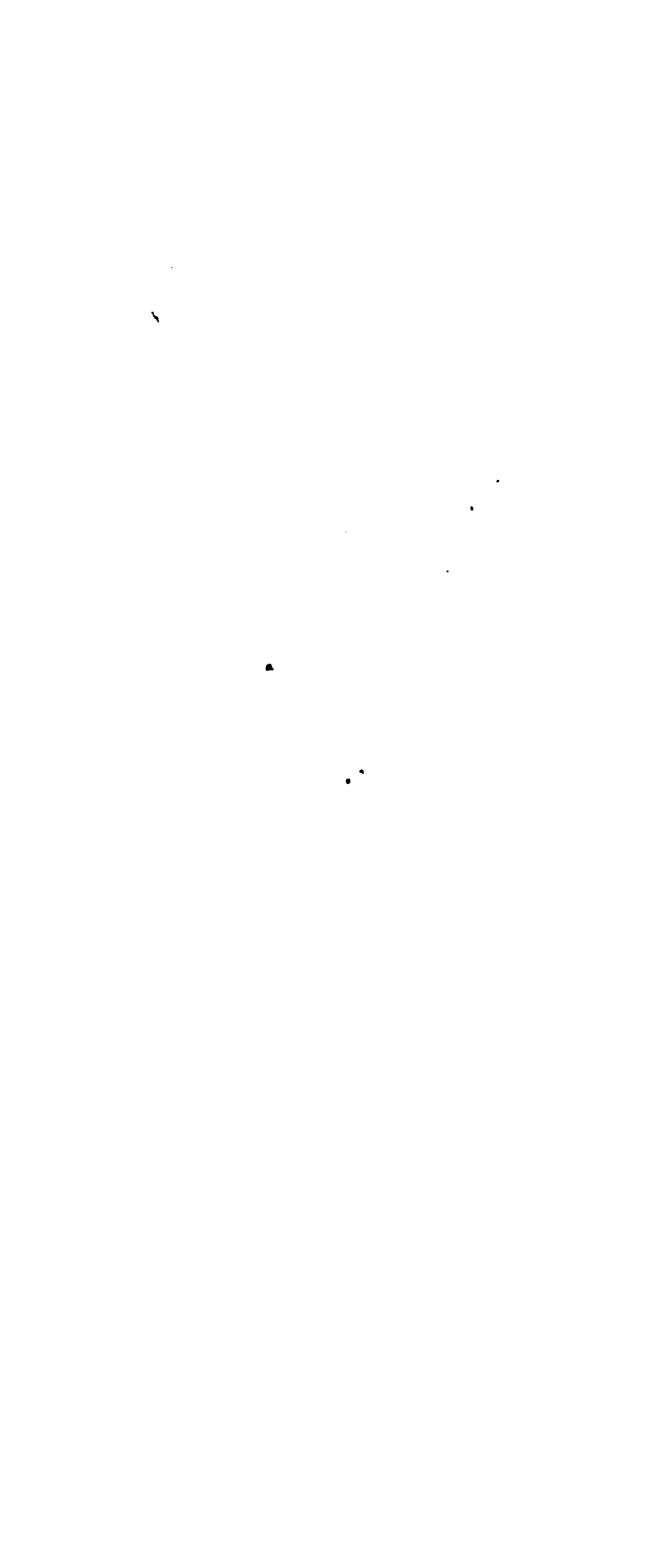
FREQUENT enough on dry banks and mud walls, bearing



1889



May 1889. Published Jan 1890. No. 1. 1889.



GYMNOSTOMUM osmundaceum,
Fern-leaved Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. without a fringe. *Lid* deciduous, *Veil* separating entire from the base.

SPEC. CHAR. Stem perfectly simple, elongated; naked at the base. Leaves acute, two-ranked. Capsule roundish. *Lid* pointless.

SYN. *Gymnostomum osmundaceum.* Hoffm. Germ. v. 2. 28. Sm. Fl. Brit. 1161.


G. pennatum. Hedw. Sp. Musc. 31, Crypt. v. 1. 77. t. 29.

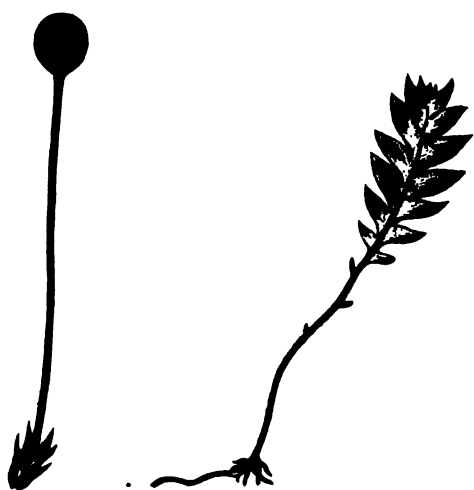
Mnium osmundaceum. Dicks. Crypt. fasc. 1. 3. t. 1. f. 4. H. Sicc. fasc. 12. 21.

Bryum pennatum. With. 821. Hull, 259.

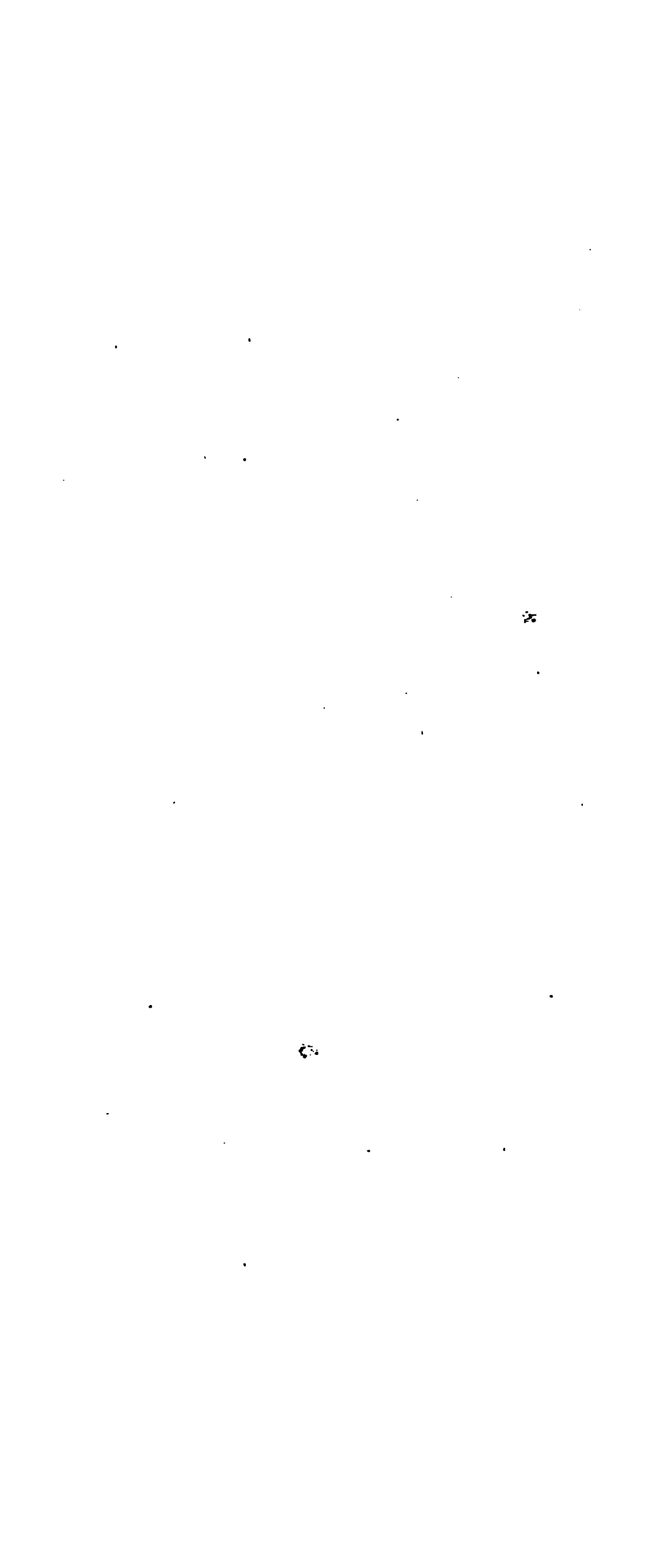
Dicksonia pusilla. Ehrh. Crypt. 65.

NONE of our British Mosses is more elegant, scarcely any so rare as the present, which has been found in Devonshire only, by the Rev. Mr. Newberry, in the road from Zele to South Tawton church, four miles from Okehampton. It ripens fruit in the early part of summer, and is annual, or, according to Hedwig, biennial. This distinguished author changed the





Cladonia cristallina L.



[1938]

GYMNOSTOMUM Griffithianum.

*Succulent Beardless-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Leaves spatulate, obtuse, fleshy, with
 a single rib. Capsule obovate. Lid blunt.

SYN. *Gymnostomum Griffithianum.* *Sm. Fl. Brit.* 1162.
Bryum Griffithianum. *Dicks. Crypt. fasc. 4. 8. t. 10.*
f. 10.

Splachnum frœlichianum. *With.* 794. *Hull.* 246 ;
 but not of Hedwig.

THE gentleman whose name this curious moss bears, and who sent our present specimens, first discovered it on the east side of Snowdon, near the summit. Mr. W. J. Hooker found it this summer very sparingly on Ben Lawers in Scotland, no other botanist than Mr. Griffith and Mr. Hooker having ever gathered the plant in any country.

Root fibrous, perhaps annual. Stems short, simple, or branched from the base, leafy. Leaves imbricated, palish, pellucid and succulent, obovate or spatulate, obtuse, wavy, entire, finely marked with round reticulations, and furnished with a central rib which does not reach the top. Fruitstalk solitary, terminal, succulent, curved. Capsule erect, obovate, brown, smooth. Lid convex, with a little blunt point. Veil conical, acute, brown, white at the base, tipped with the withered stigma. Some plants bear green terminal grain-like bodies, resembling the anthers of a *Sphagnum*.

1938



Sept. 1938. Published by the Society, London.

[1951]

GYMNOSTOMUM Heimii.

Long-stalked Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Leaves elliptic-lanceolate, acute, minutely
 serrated towards the point. Capsule cylindrical.
 Lid obliquely beaked.

SYN. *Gymnostomum Heimii.* Hedw. *Sp. Musc.* 32,
Crypt. v. 1. 80. *t.* 30. Sm. *Fl. Brit.* 1162. Turn,
Musc. Hib. 9.

Bryum Heimii, Dicks. *Crypt. fasc.* 2. 4. With. 815,
 Hull. 257.

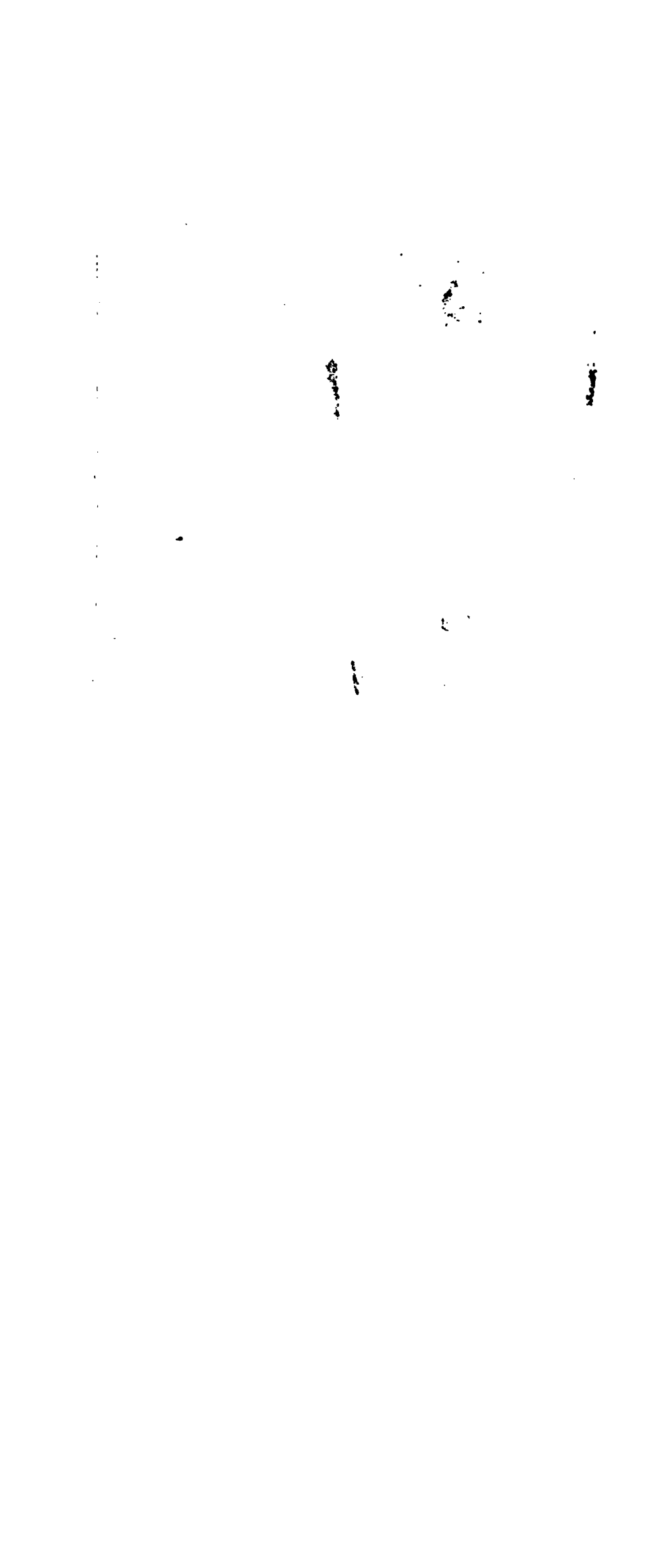
OUR specimens of this uncommon moss were gathered in Anglesea by the Rev. H. Davies, bearing ripe capsules in May. Mr. G. Don has found the same species near Forfar, Angusshire, and Mr. Turner in Ireland.

The roots are annual. Stems simple, forming dense tufts, scarcely half an inch high, leafy. Leaves of a light, often brownish, green, strongly reticulated, slightly spreading, elliptic-lanceolate, acute, flat, or somewhat carinated, with a prominent rib. Their margin minutely serrated about the point only, sometimes entire throughout, especially in the inner leaves. Fruitstalk solitary, terminal, about an inch long, yellow when young with a reddish base, at length brown. Capsule upright, brown, smooth, cylindrical with a widish mouth. Lid taper, oblique, rather shorter than the capsule, springing from a flat base, and attached by its centre to the *columella*, which, as usual in the genus, rises above the edge of the capsule.

1952



View of plant, published by the London City Council



GYMNOSTOMUM Donnianum.

Donnian Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. without a fringe. Lid deciduous.
Veil separating entire from the base.

SPEC. CHAR. Stem none. Leaves bristle-shaped.
Capsule turbinate, smooth. Lid oblique, the length
of the capsule.

FOR the knowledge of this, one of the minutest of mosses, we are entirely obliged to Mr. G. Donn of Edinburgh, who first observed it in 1779, when he was a very young botanist, clothing the surface of a rock in the Den of Dupplin, Perthshire. He has repeatedly visited it in its native situation since, and found it in other parts of the same valley, but not in fructification. The season for the capsules is November, and the root is probably annual.

No stem is discernible. The leaves grow in either one or more clusters, nearly erect, bristle-shaped, beardless, sheathing one another at their base, of a full rich opaque green. Fruitstalk solitary, upright, capillary, yellowish, about a line high. Capsule erect, turbinate or topshaped, very minute, yellowish, opaque, quite smooth as if neatly turned out of box wood, tapering at the base, wide at the mouth, with the little column projecting in the centre as in several species of *Splachnum*. Fringe certainly none. Lid tapering, according to Mr. Donn, oblique, as long as the capsule.

The bristle-shaped leaves and long lid distinguish it from *G. Davallianum*, mentioned by Mr. Drake in the *Annals of Botany*, v. 1. 577, while the smooth and rounder capsule keeps it quite separate from *G. trichodes* of Mohr. It is indeed smaller than either of those species, and scarcely half the size of *Grimmia pusilla*, which at first sight it otherwise greatly resembles.



GYMNOSTOMUM viridissimum.

Bright-green Branched Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. without a fringe. Lid deciduous. Veil separating entire from the base.

SPEC. CHAR. Stem branched, tufted. Leaves crowded, lanceolate, recurved. Capsule ovate, furrowed, erect. Lid awlshaped, curved.

SYN. Dicranum viridissimum. Sm. Fl. Brit. 1224. Turn. Musc. Hib. 71. Turn. and Dillw. Botanist's Guide, 728.

Bryum viridissimum. Dicks. Crypt. fasc. 4. 9. t. 10. f. 18.

GATHERED on trees near Ripon, Yorkshire, by Mr. W. Brunton junior, to whom we are obliged for the final determination of its genus, about which there has been some dispute. I could not at first trace out the origin of my own mistake in *Fl. Brit.*, but I find the account of the *peristomium* was communicated by a very excellent friend, not there mentioned, who has few errors to correct. In this intricate department some must be expected from the most careful investigator; and the difficulty of proving a negative renders the determination of a *Gymnostomum* peculiarly hazardous.

This moss seems by the *Botanist's Guide* to be not very uncommon. Possibly it may have been overlooked for *Orthotrichum crispum*.

The stems form level-topped tufts about an inch high, and are more or less branched, leafy, rusty in their lower part. Leaves crowded, spreading (close-pressed and twisted when dry), lanceolate, acute, beardless, entire, keeled, single-ribbed, of a fine opaque bright green, turning at length to a rusty brown. Fruitstalks brown, half an inch long. Capsule erect, ovate, brown, at length furrowed and somewhat cylindrical, with a narrow naked mouth. Lid awlshaped, rather shorter than the capsule.

1583



Microseris sp. (L.) Benth.



[2200]

GYMNOSTOMUM æruginosum.

Verdigrise Beardless-moss.

CRYPTOGAMIA Musci.


GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

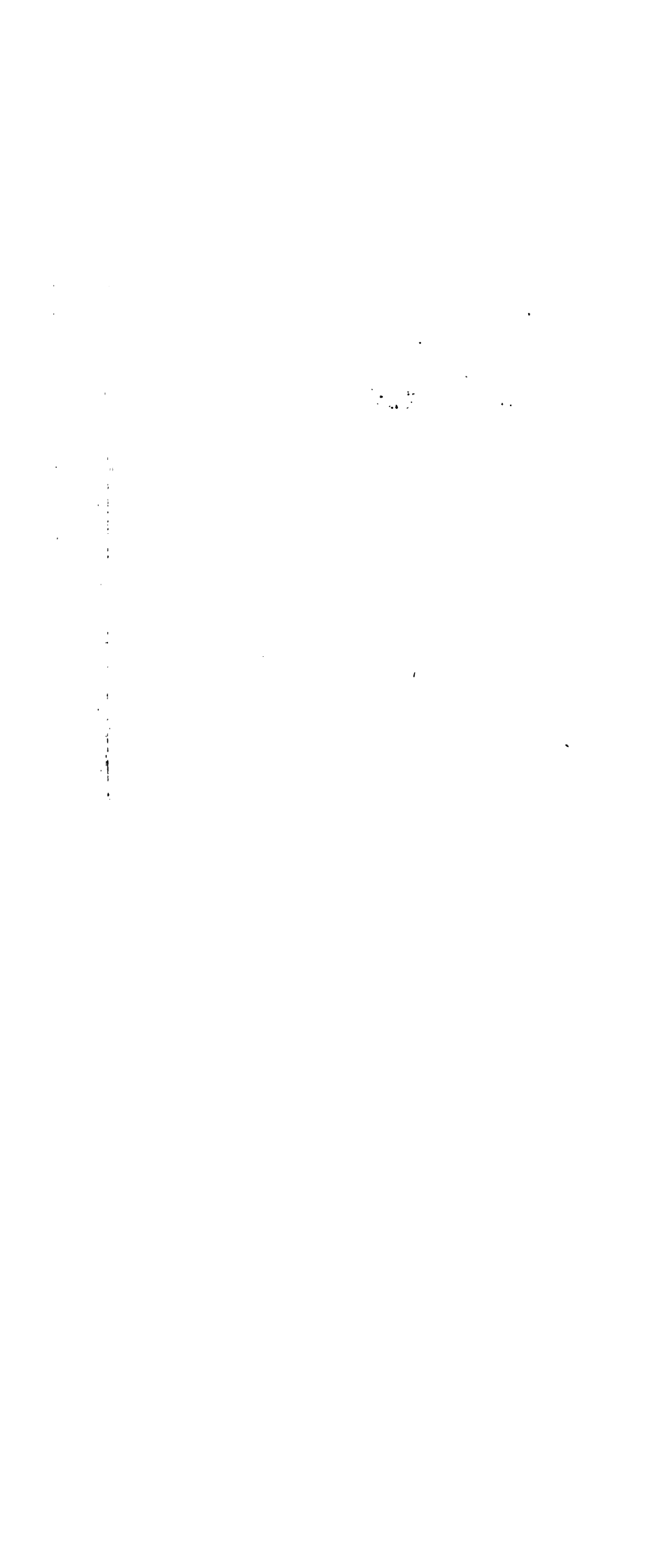
SPEC. CHAR. Stem branched, ~~tufted~~. Leaves awl-shaped, keeled, entire. Capsule bell-shaped. Lid obliquely beaked.

SYN. *Gymnostomum æruginosum* Sm. *Fl. Brit.* 1163.
Bryum fasciculatum. Dicks. *Crypt. fasc.* 3. 3; on his own authority. Mr. Eagle.

THE specimens described in *Fl. Brit.* were gathered in North Wales by Mr. Griffith, and constitute the tallest tuft in our plate; the lower tuft, with the lid, was gathered by Mr. Eagle, F.L.S., on a wet rock in the north-west corner of Yorkshire, in August, 1806.

This moss Mr. Eagle assures us is certainly Mr. Dickson's







2200



reproduced by J. R. R. R. R. R.

HYMENOSTYCHUM luteolum.

Falsaria luteolum Mont.

~~HYMENOSTYCHUM luteolum~~

~~SECT. luteolum. Lids without a fringe. Lid deciduous.~~

~~It is sometimes more than the base.~~

~~SECT. luteolum. Lids without a fringe. Leaves lanceo-
late, entire, green. Capitate ciliolae. Lid be-
ing deciduous.~~

~~SECT. luteolum. Lids without a fringe. See Fl. Brit. 1163.~~

~~It is sometimes more than the base.~~

SECT. IV. the Rev. E. Dicks from Wales. Mr. Dickson,
Mr. Turner and Mr. Turner assure us it is common on the
mountains of Scotland. It has been taken for the Linnean
Bryum luteolum, which is Willdenow's n. 47. f. 36, referred in
Fl. Brit. II. 5. n. 1163: but Mr. Engle, who has accu-

redly studied the subject and who we hope will illustrate it,





Asplenium adnigrum (L.) Hook. & Grev.

1877-1878

[2202]

GYMNOSTOMUM stelligerum.

Star-topped Boardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. without a fringe. Lid deciduous.
Peri. separating entire from the base.

SPEC. CHAR. Stem branched, spreading. Leaves li-
near-lanceolate, spreading; the uppermost stellated.
Capsule hemispherical. Lid oblique.


SEX. GYMNOGAMETUM stelligerum. Schrad. Journ. v. 2. 55.

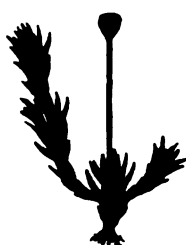
BRIT. MUSC. v. 1. 46. Sm. Fl. Brit. 1164.

BRIT. stelligerum. Dick. Crypt. fasc. 2. 3. 1. 4.

Fl. W. 823. Hb. 253.

ALL our knowledge of this little moss is derived from a spe-
cimen given by Mr. Dickson, who found it in woods in the





Specimen from the Herbarium of the University of London

GYMNOSTOMUM microstomum.

*Small-mouthed Beardless-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Fil separating entire from the base.

SPEC. CHAR. Stem nearly simple. Leaves awlshaped,
 incurved by drying. Lid awlshaped. Capsule el-
 lyptical, much contracted at the mouth.

SYN. *Gymnostomum microstomum.* *Hedr. Sp. Musc.* 32.
Crypt. v. S. 71. t. 30, B. *Sm. Fl. Brit.* 1165.
Swartz Musc. Succ. 21.

Bryum microstomum. *Dicks. Crypt. fasc.* 4. 9.

MR. DICKSON mentions this curious little moss as growing in pastures. We have compared his native specimens with ours sent by Dr. Swartz, and they precisely agree, as well as with Hedwig's figure and description; but we are obliged to take our drawing from some of Swedish growth, a measure we think it our duty to acknowledge, though there is no uncertainty nor ambiguity in the case.

This was supposed to be the smallest of its genus, but it yields in that respect to some later discoveries. The roots are



GYMNOSTOMUM paucifolium.

Few-leaved Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. without a fringe. Lid deciduous.
Veil separating entire from the base.

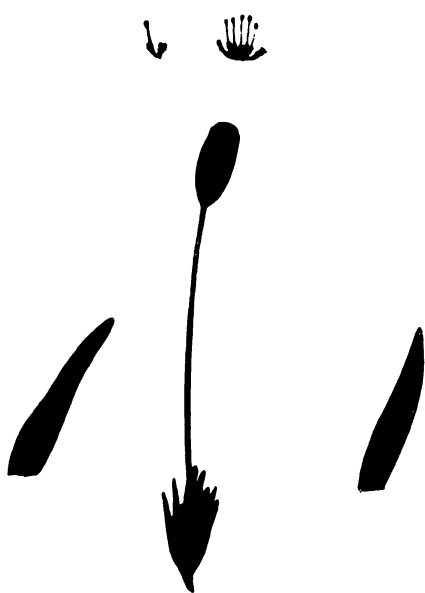
SPEC. CHAR. Stem short and quite simple. Leaves linear-lanceolate, bluntish, beardless, single-ribbed, entire. Capsule slightly ovate.

SYS. *Bryum paucifolium*. Dicks. *Crypt. fasc.* 4. 7.
t. 11. f. 3.

MR. EAGLE communicated these specimens to Mr. Turner as the indubitable *Bryum paucifolium* of Mr. Dickson, found on ruinous brick walls, near Wetherby, Yorkshire, and given him by its discoverer, with whose own description, and with the drawing made originally by Mr. Sowerby from his specimens, it precisely agrees; except, that the capsule is not "toothed," but naked at the mouth. This synonym therefore must be erased from *Dicranum cylindricum*, Fl. Brit. 1221, which, on the authority of Mr. Turner's herbarium, was believed to be Mr. Dickson's plant; and we presume the said *Dicranum* is to be struck out of the British list.

The present moss is very distinct from all the short simple-stemmed kinds of *Gymnostomum* hitherto described. The leaves are linear-lanceolate, somewhat revolute, bluntish, with a strong mid-rib, but no capillary point, and spread moderately in every direction. Fruitstalk terminal, solitary, yellowish. Capsule oblong, slightly ovate, obscurely striated; sometimes contracted just under the orifice. Lid beaked. Veil awlshaped, slender, smooth. The whole plant scarcely exceeds the height of half an inch.

2506



Specimen published by J. H. Kew, London

GYMNOSTOMUM fasciculare.

Blunt Pear-shaped Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Stem simple, very short. Leaves ovate,
acute, minutely serrated. Capsule pear-shaped. Lid
convex, blunt.

SYN. *Gymnostomum fasciculare.* *Sm. Fl. Brit.* 1165.

Bryum fasciculare. *Dicks. Crypt. fasc.* 3. 3. t. 7. f. 5.
With. 815. *Hull.* 257.

B. Ægypti. *Hasselquist's Voyage*, 263.

FEW mosses have been more celebrated, very few less understood, than this. The herbarium of Linnæus shows it to be what Hasselquist gathered on the walls of Jerusalem, and supposed might be the Hyssop of Solomon "which springeth out of the wall;" an ingenious idea which Linnæus adopted, and others have retailed in various places. Our great master, however, has led us all astray by very inaccurately referring Hasselquist's excellent specimens to his own *Bryum truncatum*. Mr. Dickson, who could not be aware of this, finding the same moss in Britain, described it as new by the name of

STENOTOMUM fasciculare.

Little Pear-surgeon's Beardless-moss.

CHARACTERES MARI.

CAUL. TER. *Caul.* without a fringe. *Lid* deciduous.

Leaf ascending more from the base.

SPERM. TER. *Spem* simple, very short. Leaves ovate,

more minutely serrated. Capsule pear-shaped. *Lid*

more minutely

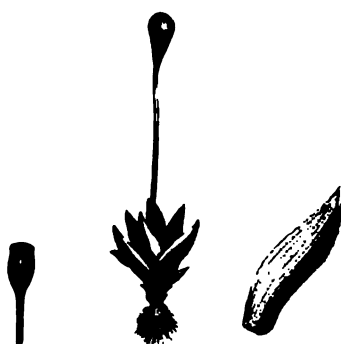
SPERM. TER. *Spem* simple, very short. Leaves ovate,

more minutely serrated. Capsule pear-shaped. *Lid*

more minutely

SPERM. TER. *Spem* simple, very short. Leaves ovate,

Few mosses have been more esteemed, very few less universal than this. The herbarium of Linnaeus shows it to be what Cassinius gathered in the walls of Jerusalem, and supposed might be the *Spem* of Solomon - which springeth out of the wall: an ingenious idea which Linnaeus adopted, and others have repeated in various places. Our great master, however, has not so far as we know been very accurately referring Cassinius's excellent specimens to his own *Bryum truncatum*. Mr. Dickson, who could not be aware of this, finding the same moss in Britain described it as new by the name of



Dec. 1. Moss. Published by J. H. Stenning, London.

BRYUM pyriforme,

Pear-shaped Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. Capsule with a lid. Veil smooth. Flower-stalk from a terminal tubercle.

SPEC. CHAR. Stem none. Capsules obovate, erect, without ciliæ. Veil awl-shaped. Leaves ovate, spreading, acute, beardless.

SYN. Bryum pyriforme. Linn. Sp. Pl. 1580. Hud. Fl. An. 475. With. Bot. Arr. v. 3. 104. ed. 2. v. 3. 812. Relh. Cant. Suppl. 1. 18. Dicks. H. Sicc. fasc. 4. 22.

Bryum parvum erectis piriformibus majusculis capitulis, foliis Serpilli pellucidis. Raii Syn. 93.

B. serpillifolium pellucidum, capsulis pyriformibus. Dill. Musc. 344. t. 44. f. 6.

Gymnostomum pyriforme. Sibth. Ox. 274.

FREQUENT on heaths, ditch-banks, &c. in moist shady places, bringing its capsules to maturity in the spring for the most part, though, as Dillenius remarks, they may be met with occasionally all the year long.

Root annual. Stem none, except that when the plants are produced early in the year, and grow luxuriant, they throw out lateral shoots of leaves a little elevated on short branches, and these flower later than the parent plant. Leaves several, spreading like a star, ovate, entire, acute, but without any terminal hair or bristle; their colour is a pale pellucid green. Stalk central, very short, bearing a large erect capsule, oval when young, and capped with a whitish awl-shaped veil, which Dillenius describes as being angular like that of *B. hygrometricum*, t. 342, but we have found it cylindrical. In ripening the capsule becomes pear-shaped, or thicker towards the top, and the veil splits and falls off. The cover is conical. The orifice destitute of teeth or ciliæ, which character makes the genus *Gymnostomum* (naked-mouth) of Hedwig, and it is perhaps one of his best defined ones; but for reasons already given, p. 150, we defer adopting any of them till experience has fixed them.



Adiantum species

GYMNOSTOMUM lapponicum.

Lapland Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, channelled, curled when dry. Capsule abrupt, furrowed.

SYN. *Gymnostomum lapponicum.* Hedw. *Crypt.* v. 3. 10. t. 5, A. Sm. *Fl. Brit.* 1167. Swartz. *Musc. Suec.* 20.

Anictangium lapponicum. Hedw. *Sp. Musc.* 40.

Bryum lapponicum. Dicks. *Crypt. fasc.* 4. 10.

AS we approach so near to the end of our long labours, we think it best to finish all the species of a genus together, if possible. This then, with the three preceding plates, concludes the British species of *Gymnostomum*, as far as they are described. It was discovered on the alpine rocks of Scotland by Mr. Dickson. Our specimen accompanied by a dark *Jungermannia* was gathered in Cwm Idwell, North Wales, by Mr. Griffith. The other, given us by Dr. Swartz, came from Lapland. Professor Thunberg sent a similar one to Hedwig, destitute, like ours, of a lid to the capsules, nor are we informed of the season for gathering the plant in perfection.

The stems compose loose perennial tufts, about an inch high, and are for the most part very much branched, leafy throughout, and spreading. Leaves of a full green, imbricated, linear-lanceolate, acute, beardless, keeled, single-ribbed, entire; when dry incurved and crisped. Fruit-stalks terminal, solitary, short, erect. Capsule erect, somewhat pear-shaped, with a wide mouth, its sides marked with eight longitudinal furrows and as many strong ribs. The colour of the fruit is a bright bay. We find nothing of the tulip-like red and yellow exhibited in Hedwig's plate; so difficult is it to command exactness in subordinate colourers!

2216



... ..

1. The first part of the document is a list of names and dates.

2. The second part of the document is a list of names and dates.

GYMNOSTOMUM imberbe.

Branched Green Beardless-moss.

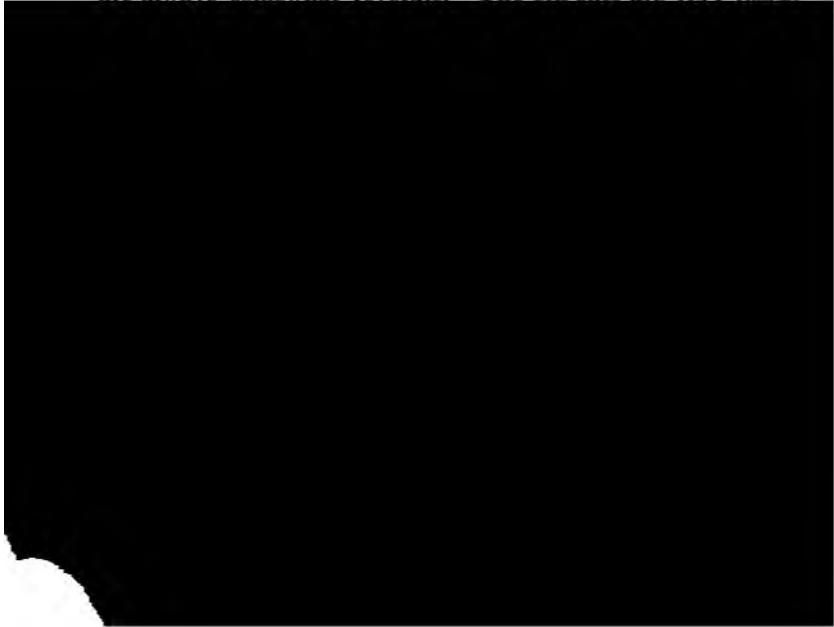
CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Stem much branched, spreading. Leaves
ovate, without rib or nerve; green at the point.
Capsule bell-shaped, nearly sessile.

DISCOVERED on dry rocks upon mountains in the west of Ireland by Miss Hutchins, who in 1809 sent specimens to Mr. Turner, which he has kindly communicated to us.

This moss comes nearest to *G. ciliatum*, t. 1179, from which it differs in wanting the essential character of that species, the white transparent point of its leaves, even of the upper and longer ones which overtop the fruit. There is also a more membranous habit in all the leaves, and their margins are always somewhat revolute. The old ones are very black



2257.



Specimens published by the Secretary, London

[1179]

GYMNOSTOMUM ciliatum.

Branched Hoary Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous.
Veil separating entire from the base.

SPEC. CHAR. Stem much branched, spreading. Leaves
ovate, without rib or nerve, pellucid at the point.
Capsule bell-shaped, nearly sessile.

SYN. *Gymnostomum ciliatum.* Swartz. *Musc. Suec.* 19.
Roth. Germ. v. 3. 129.

Hedwigia ciliata. Hedw. *Crypt.* v. 1. 107. t. 40.

Bryum apocarpum β. Linn. *Sp. Pl.* 1579. *Huds.* 474.
With. 809.


Fontinalis albicans. Hull. 275.

Phascum piliferum. With. 786!

Sphagnum nodosum, hirsutum et incanum. Dill.
Musc. 246. t. 32. f. 5.

S. cauliferum et ramosum saxatile hirsutum incanum,
capitulis virentibus. Raii *Syn.* 105.

NOTHING can more plainly shew the necessity of attending to the Hedwigian characters of mosses than the mistake of former botanists in confounding this with *Gracilis* etc.





SPLACHNUM mnioides.
Green Tapering Gland-moss.

CRYPTOGAMIA Musci.

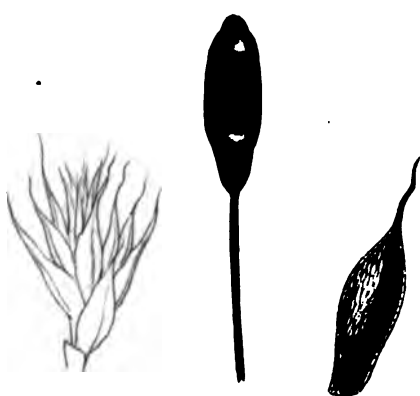
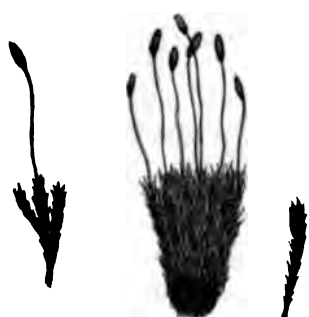
GEN. CHAR. Caps. cylindrical, placed on a fleshy receptacle. Fringe simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle obconical, green. Leaves elliptic-lanceolate, bearded, entire.

SYN. Splachnum mnioides. Linn. Fil. Meth. Musc. 26. Sm. Fl. Brit. 1169. Hedw. Sp. Musc. 51. Crypt. v. 2. 35. t. 11. Dicks. Crypt. fasc. 1. 2. With. 793. Hull. 246.

IN the 11th volume of this work, t. 786, a *Splachnum* is figured by the name of *mnioides*, which has since been distinguished from that species, and is the *fastigiatum* of the *Flora Britannica*, which name is therefore to be applied to our t. 786, and all the references, except to Dill. t. 44. f. 5, which is certainly right, exchanged for those indicated in Fl. Brit. 1174. It is also to be observed that the receptacle in our above-mentioned figure should be of a deep red rather than brown.

The true *mnioides* here represented was received from Mr. Dickson, and agrees with the original Linnæan specimen. Dillenius does not appear to have been acquainted with this. It is scarcely more than half the size of the *fastigiatum*, and of a paler, more yellowish, aspect altogether. It is found in the summer, in moist alpine parts of Scotland and Wales, generally on the dung of stags and badgers, according to Mr. Griffith. The stems are branched, about an inch high. Leaves upright, entire, tipped with a yellow wavy hair. Receptacle small, inversely conical, green when fresh, not at all red. Capsule as thick, and full as long, as the receptacle, woody. Lid conical, dense, pale brown or yellowish.



April 2 1814. Published by J. J. Sowerby, London.



SPLACHNUM angustatum.

Narrow-leaved Splachnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical, placed on a fleshy receptacle. *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle obovate, brownish. Leaves lanceolate, pointed, bearded; the upper ones serrated.

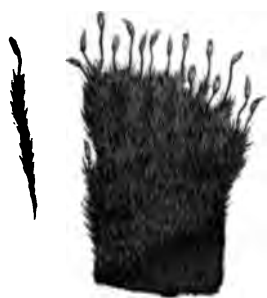
SYN. *Splachnum angustatum.* *Linn. fil. Meth. Musc.* 33. *Hedw. Sp. Musc.* 51. *Crypt. v. 2.* 37. *t. 12.* *Dicks. Crypt. fasc. 2.* 3. *Wibb.* 792. *Hull.* 246.

WE believe the species of *Splachnum* generally grow on the dung of animals, and for the most part in mountainous situations. Mr. G. Donn gathered the present kind upon cow-dung on the side of Lochawen, Scotland, growing with *S. spbæricum*, see vol. 11. t. 785.

It was originally described by Dr. Swartz in his Dissertation upon Mosses, published under the presidency of the younger Linnæus, and was first announced as a British plant by Mr. Dickson.

The stems form very dense tufts, and are from one to two





SPLACHNUM urceolatum.

Elliptical Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. cylindrical, placed on a fleshy receptacle. Fringe simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle obovate, greenish-brown. Leaves elliptical, concave, entire, taper-pointed.

SYN. *Splachnum urceolatum*. Hedw. *Sp. Musc.* 52. *Crypt.* n. 2. 39. t. 13. Sm. *Fl. Brit.* 1170. Dicks. *Crypt. fasc.* 2. 2. With. 793. Hull. 246.

S. ampullaceum. Fl. Dan. t. 192; bad.

S. bryoides. Zoeg. *Fl. Island.* 12. Von Troil *Isl.* 119.

FOUND on the Scottish mountain of Ben High, by Mr. Dickson, to whom we are indebted for a specimen, which we have compared with original ones in the Linnæan herbarium, gathered by Zoega in Iceland.

The stems compose dense tufts, about an inch high, and are either simple or divided. Leaves numerous, imbricated, darkish green, elliptical, obtuse, concave, entire, with one rib, and a long, taper, very slender green point, along which the rib is continued, but there is no positive hair-like appendage. Fruitstalk various in length, stout, red or tawny, quite straight. Receptacle obovate, tolerably smooth, at first green, then brown. Capsule brown, narrower than the receptacle, and but about half as long, finally contracted in the middle. Lid hemispherical. Fringe yellowish, turning brown in decay.

2417.



Mass.



SPLACHNUM tenue.

Slender Splachnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical, placed on a fleshy receptacle. *Fringe* simple, of 16 teeth, standing in pairs.

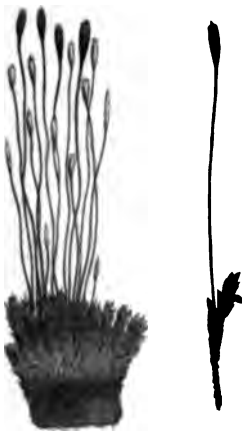
SPEC. CHAR. Receptacle obconical, slender, brown. Leaves ovate, acute, ferrated, beardless.

SYN. *Splachnum tenue.* *Dicks. Crypt. fasc. 2. 2. Wils. 793. Hull. 246.*

S. purpureum. *Wils. 794. t. 18. f. 9. Hull. 246.*

GATHERED in October on the very lofty mountains of ~~Ben Lomond~~ Ben Lomond by Mr. G. Donn. It has also been found by the same indefatigable and excellent observer, as well as by Mr. Deane upon Ben Lawers; and by Mr. Griffith in North Wales. But its original discoverer was Dr. F. Buchanann, who gathered it at his paternal seat at Leney near Stirling, in 1782. No foreign writer seems to have known this species, but Mr. D. Turner is collected of specimens lately gathered at the Harz by Mr. Nuhn. Can it be *S. serratum* of Hedw. *Sp. Musc. 53. t. 8.*

The stems are generally very short, forming tufts. Leaves



[786]

SPLACHNUM mnioides.

Brown tapering Splachnum.

CRYPTOGAMIA Musci.

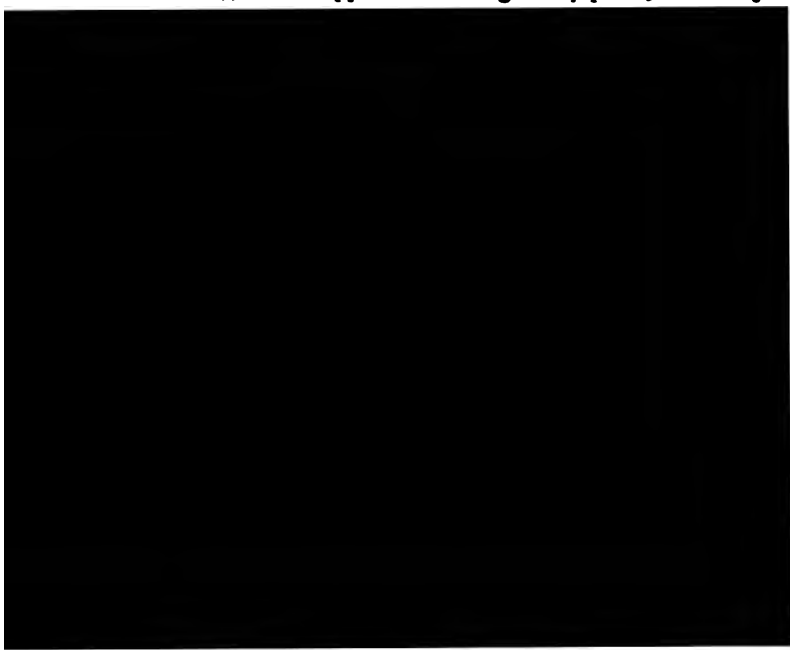
GEN. CHAR. *Capsule* cylindrical, placed on a fleshy *receptacle*. *Fringe* of a simple row of teeth.

SPEC. CHAR. *Receptacle* oblong, brown. *Leaves* elliptic-lanceolate, entire, brittle-pointed.

SYN. *Splachnum mnioides*. Swartz. in *Linn. fil. Meth. Musc.* 26. *Dickf. Crypt. fasc.* 1. 3. *With.* 793. *Hull.* 246.

Bryum ampullaceum, foliis et ampullis angustioribus. *Dill. Musc.* 345. t. 44. f. 5.

SPECIMENS of this moss were communicated to us from the mountains of Scotland by Mr. John Mackay in the month of July. It grows in dense tufts, consisting of longish, simple or divided, leafy stems. The leaves are closely imbricated, lanceolate, approaching to an elliptical form (especially the lower ones), entire, tipped with a long bristly point, and having





[1590]

SPLACHNUM ovatum.

Ovate Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capa* cylindrical, placed on a fleshy receptacle. *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle ovate, brownish. Leaves ovate, acute, entire.

SYN. *Splachnum ovatum*. *Dicks. Crypt. fasc. 2. 2. Sm. Fl. Brit. 1172. Hedw. Sp. Musc. 54. t. 8. f. 4—6. With. 793. Hull. 246. Turn. Musc. Hist. 15.*

Phascum pedunculatum. *Huds. ed. 1. 397.*

Bryum ampullaceum, foliis serpylli pellucidis, collo crassiore. *Dill. Musc. 344. t. 44. f. 4.*

B. erectis gigartiniis capitulis, foliis serpylli pellucidis, obtusis. *Dill. in Rati Syn. 93. t. 3. f. 2.*

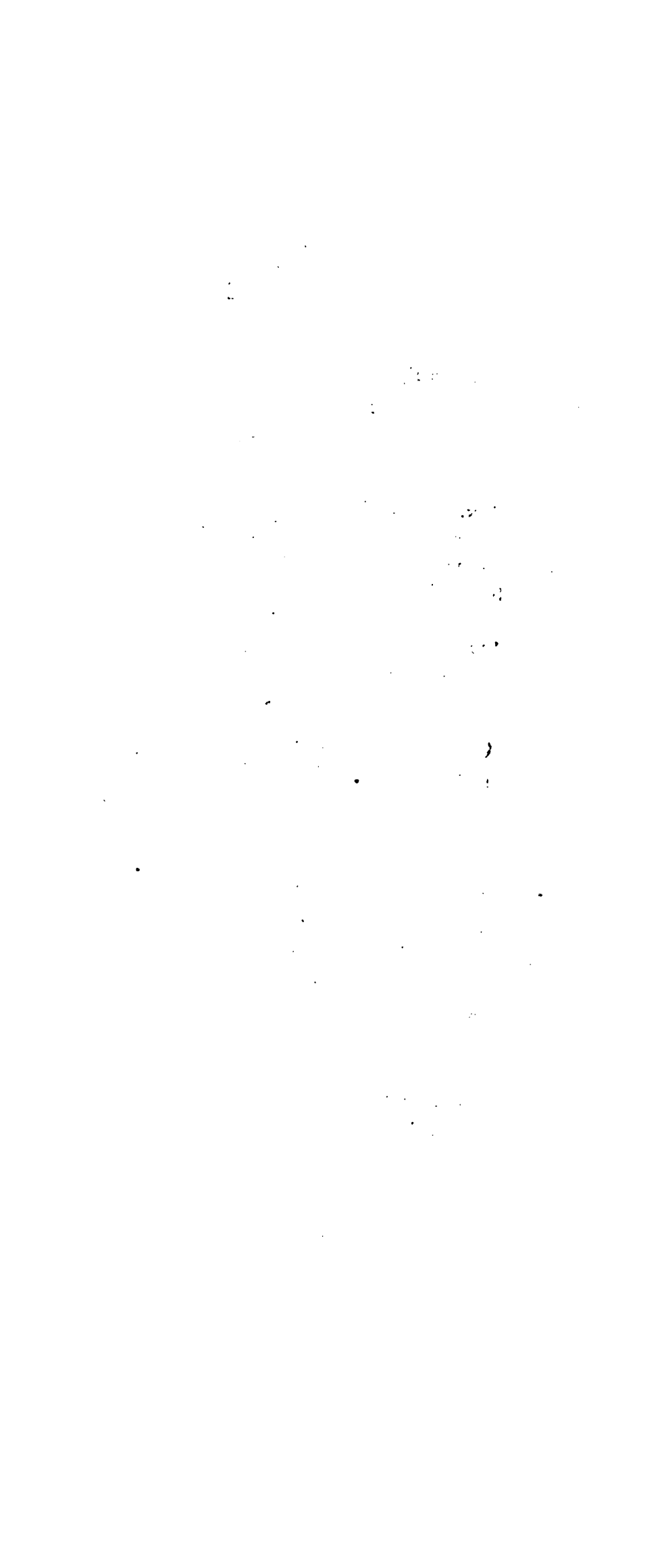
THESE specimens were gathered by Dr. Francis Buchanan in 1793, at Leney near Stirling, his native place. The glen of Leney has recently been celebrated in the beautiful poetry of Mr. Walter Scott; and from these romantic and sequestered scenes, a long residence in various parts of India has neither perverted the taste, nor warmed the heart, of our friend.

Splachnum ovatum grows on alpine spongy bogs in Scotland, Wales, Ireland and the north of England. The capsules are perfected in June or July. Roots annual. Stem short and simple. Leaves of a broad ovate figure, rather obtuse, with a small point, entire, reticulated, furnished with one strong rib. Fruit-stalk about an inch long, straight, rigid, tawny, paler upwards. Receptacle ovate or somewhat globular, at first green, but soon becoming brown, smooth, not wrinkled. Capsule contracted, much shorter and narrower than the receptacle, tawny. Fringe at length reflexed. Lid conical.

1590



April 1 1866 Published by T. & A. Newbery, London.



SPLACHNUM rugosum.

Rugged Gland-moss.

CRYPTOGAMIA Musci.

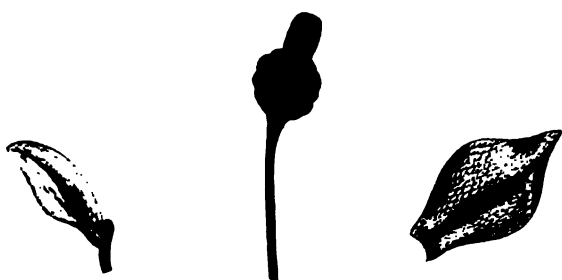
GEN. CHAR. *Caps.* cylindrical, placed on a fleshy receptacle. *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle globose, at length wrinkled, brown. Leaves broad-ovate, acute, entire.

SYN. *Splachnum rugosum.* *Dicks. Crypt. fasc. 4. 3. t. 10. f. 7.* *Sm. Fl. Brit.* 1173.

COMMUNICATED in 1803, by Mr. G. Don, from the Highlands of Scotland, where Mr. Dickson first found it.

Roots annual, black, elongated, forming dense tufts. Stems nearly all simple; the sterile ones short, bearing several crowded, spreading leaves of a dark green, strongly reticulated, entire, broad-ovate, contracted at each end, and acute





SPLACHNUM sphæricum.

*Green globular Splachnum.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Capsule* cylindrical, placed on a fleshy
receptacle. *Fringe* of a simple row of teeth.

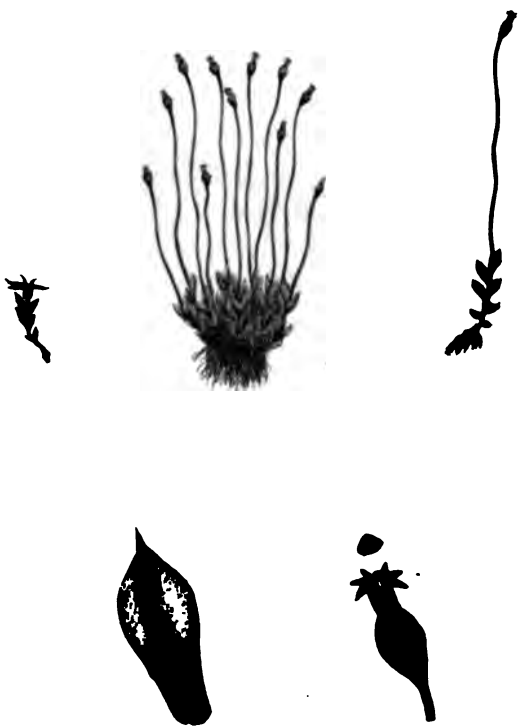
SPEC. CHAR. Receptacle nearly globular, green.
 Leaves ovate, pointed, entire.

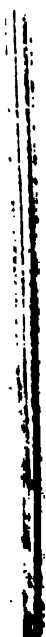
SYN. *Splachnum sphæricum*. Swartz. in *Linn. fil.*
Metb. Musc. 33. t. 1. f. 1. *Dicks. Crypt. fusc.* 1. 3.
Wub. 791. *Hull.* 245.

AMID all the doubts and difficulties that modern botanists have met with in fixing the genera of mosses, the *Splachnum* remains unshaken. Its essential character depends on the succulent receptacle, always thicker and more turgid than the cylindrical capsule which it sustains. The male flowers form a little terminal star on a separate root from the female.

This rare species was first observed in Britain by my worthy friend and fellow-student Dr. Francis Buchannan, now resident

705





[1921]

SPLACHNUM gracile.

Zigzag Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. cylindrical, placed on a fleshy receptacle. Fringe simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle globose, rusty-brown. Leaves ovate, with a serrated point. Fruit-stalk zigzag.

STX. *Splachnum gracile*. Dicks. *Crypt. fasc.* 4. 3. t. 10. f. 5. Sm. *Fl. Brit.* 1174.

S. sphaericum E. Turn. *Musc. Hib.* 15.

S. vasculosum. Huds. 469. *Lightf.* 697. *With.* 791, with wrong synonyms and descriptions. *Hull.* 245.

BOUGHT from Ben Lavers in the Highlands by Mr. Turner and Mr. W. J. Hooker. We think, with Mr. Dickson, that it is a very distinct species. Before the species of *Splachnum* were well discriminated, this was taken for the

1971

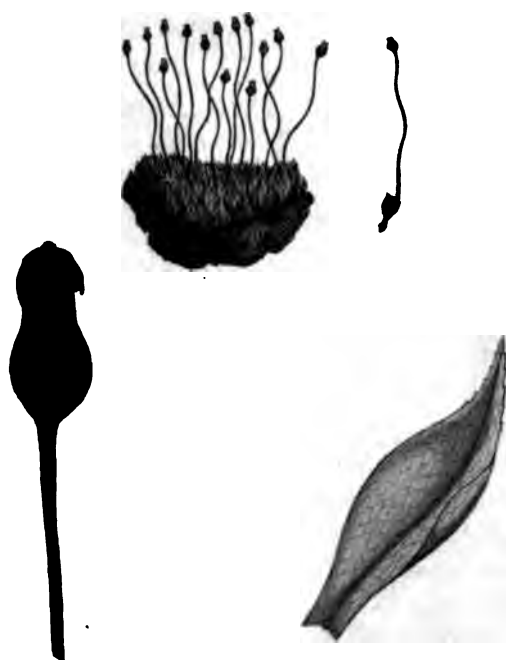


Fig. 1. Not published by J. L. Sorensen, London

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THE HISTORY OF THE REIGN OF CHARLES THE FIRST

BY
 JOHN HENRY

THE FIRST PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM HIS BIRTH TO HIS DEATH, IN THE YEAR 1649.

THE SECOND PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM HIS DEATH TO THE RESTORATION OF CHARLES THE SECOND, IN THE YEAR 1660.

THE THIRD PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM THE RESTORATION OF CHARLES THE SECOND TO THE DEATH OF CHARLES THE SECOND, IN THE YEAR 1685.

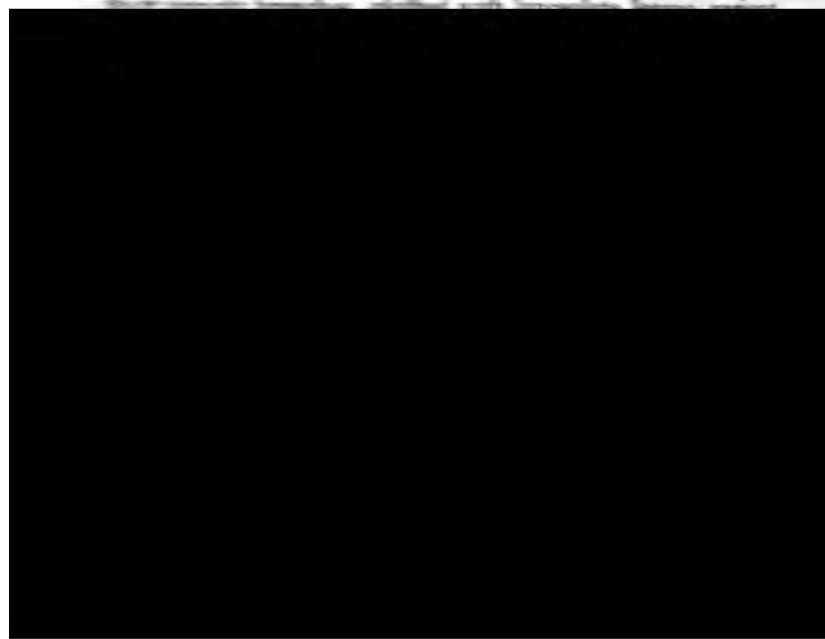
THE FOURTH PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM THE DEATH OF CHARLES THE SECOND TO THE DEATH OF CHARLES THE FIRST, IN THE YEAR 1649.

THE FIFTH PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM THE DEATH OF CHARLES THE FIRST TO THE DEATH OF CHARLES THE FIRST, IN THE YEAR 1649.

THE SIXTH PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM THE DEATH OF CHARLES THE FIRST TO THE DEATH OF CHARLES THE FIRST, IN THE YEAR 1649.

THE SEVENTH PART OF THE HISTORY OF THE REIGN OF CHARLES THE FIRST, FROM THE DEATH OF CHARLES THE FIRST TO THE DEATH OF CHARLES THE FIRST, IN THE YEAR 1649.

GENTLEMEN OF THE HOUSE OF COMMONS, I HAVE THE HONOUR TO ACKNOWLEDGE THE FAVOUR WHICH YOUR LORDSHIPS HAVE BEEN PLEASED TO BESTOW UPON ME, BY YOUR LETTERS OF THE 10TH INSTANT, IN WHICH YOU HAVE BEEN PLEASED TO COMMISSION ME TO PURCHASE FOR YOU SUCH BOOKS AS YOU HAVE BEEN PLEASED TO ORDER.





[1116]

SPLACHNUM Turnerianum.

Turnerian Splachnum.

CRYPTOGAMIA MAG.

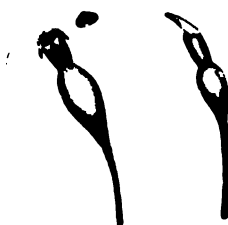
GEN. CHAR. Capsule cylindrical, placed on a fleshy receptacle. Fringe of a simple row of teeth, approaching each other in pairs.

SPEC. CHAR. Receptacle obovate, green. Capsule rounded at the base, standing on a short stalk. Leaves lanceolate, taper-pointed, somewhat serrated.

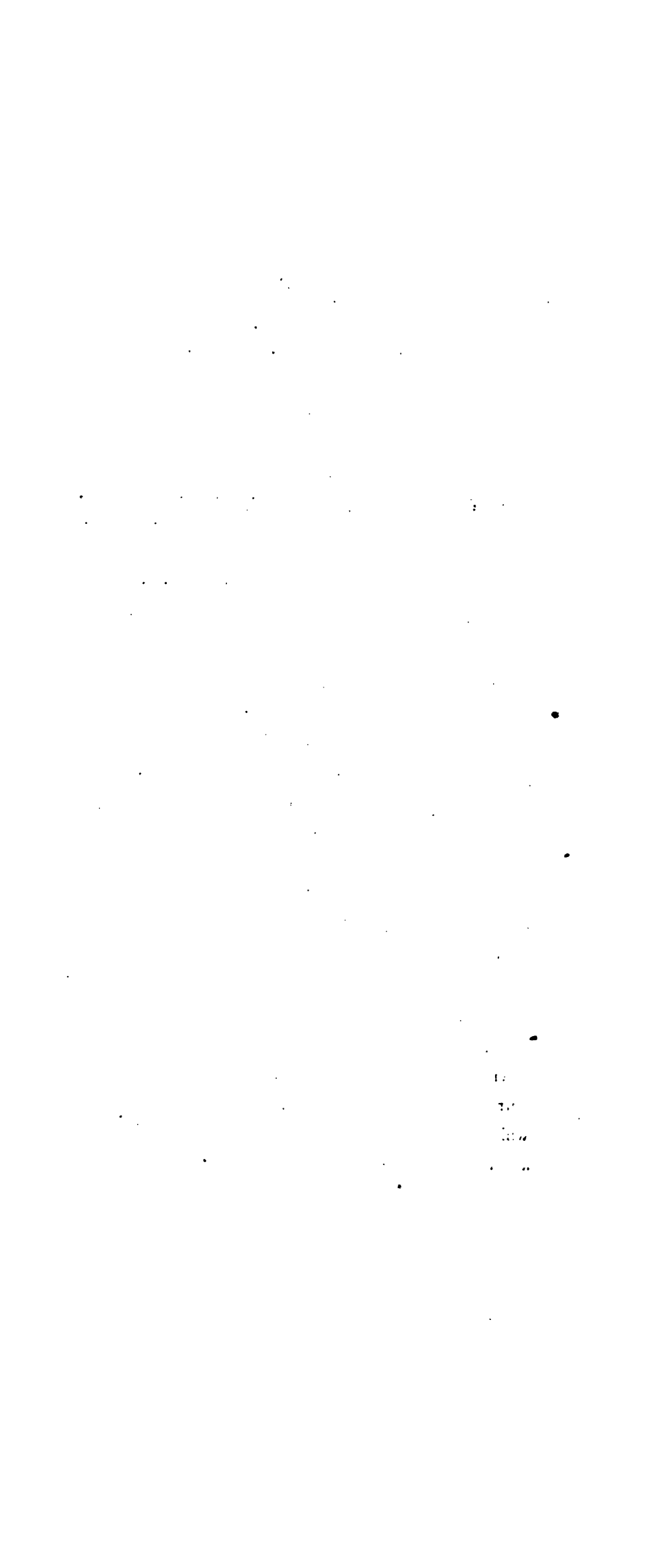
SYN. Splanchnum Turnerianum. Distf. Crypt. fasc. 2. p. 10. f. 11.

S. Turnerianum. Wedd. 791. t. 18. f. 2, left hand figure.

A NUMBER of mammillated heads and moors, found by Mr. Granger in North Wales, and by Mr. Turner and Mr. Sowerby in a bog on a high hill 3 miles from Exeter towards







SPLACHNUM *lingulatum*.
Tongue-leaved Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical, placed on a fleshy *receptacle*. *Fringe* simple, of 16 teeth, standing in pairs.

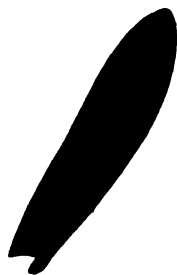
SPEC. CHAR. *Receptacle* inversely conical, brown, narrower than the capsule. Leaves tongue-shaped, obtuse, entire, pointless.

SYN. *Splachnum lingulatum*. *Dicks. Crypt. fasc. 4. 4. t. 10. f. 6.* *Sm. Fl. Brit. 1177.*

SENT from the Highland mountain of Ben Lawers by Mr. G. Don. We have also been favoured with a specimen by Mr. Dickson, its original finder and describer.

This species forms tufts, supposed to be annual like the rest of its genus. Roots black, dense. Stems simple or divided, not an inch high. Leaves of a fine pellucid green, with strong oblong reticulations, tongue-shaped, rather concave, obtuse, entire, single-ribbed, without any terminal hair or point; the lower ones rather more acute. Fruitstalks solitary, terminal, above an inch high, of a fine deep crimson when fresh, not quite straight. *Receptacle* so small and narrow as to seem merely the elongated base of the capsule, which is of the same brown or chestnut hue, oblong, with a widish mouth. *Fringe* short, inflexed, brown.

2095



Sc. maculata (Pursh) L.

17. The first of these is the fact that the

.



SPLACHNUM reticulatum,

Reticulated Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. cylindrical, placed on a fleshy receptacle. Fringe simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle inversely conical, brown, narrower than the capsule. Leaves ovate, acute, beardless, serrated towards the point.

SYN. *Splachnum reticulatum*. Sm. *Fl. Brit.* 1177.
Bryum reticulatum. Dicks. *Crypt. fasc.* 2. 4. t. 4.
 f. 6. *With.* 821. *Hull.* 255.

MR. DICESON found this *Splachnum* on the Scottish mountain of Ben High. No other person has met with the same, and his original specimens were in an advanced and damaged condition. One of these only, from Mr. Turner's herbarium, could we procure; to which we annex a magnified capsule from Mr. Dickson's plate.

The broad ovate leaves, which are strongly reticulated, distinguish this species from *lingulatum*, t. 2095, with which the smallness of the receptacle nearly agrees. The latter, with the swelling capsule, both together form a pear-like figure. The fringe is inflexed. Fruitstalk from the bottom of the stem or branch.

S. Frœlichianum, Hedw. *Crypt. v.* 3. 99. t. 40, differs in having more spatulate and blunt leaves, with a terminal fruitstalk, and we can scarcely suppose it the same with our plant, though Dr. Swartz unites them. His synonym therefore, cited with doubt in the *Fl. Brit.*, should be excluded from thence, as belonging to the plant of Hedwig.

2507.



Revised published by J. A. Schuyler

[1377]

ANDREA rupestris.*Dusky Rock Andrea.***CERPTOGONIA Muri.**

GEN. CHAR. *Caps.* very short. *Fringe* simple, of 4
~~receptacles~~ *recept.* ~~emerging~~ *emerging* at their tips, and bearing
 the ~~anther~~ *anther*.

SPEC. CHAR. *Leaves* imbricate, keeled, sickle-shaped,
~~forming the cap.~~

SYN. ANDREA RUPESTRIS. *Sav. F. Brit.* 1178.

~~IMBRICATUM RUPESTRIS.~~ *Linna. Sp. PL* 1601. *Huds.*

Sav. F. Brit. 882. *Huds.* 251. *Lightf.* 787.

Valer. in Bull. fasc. 7. 93.

~~IMBRICATUM~~ *alpinum* *dictyonis*, *foliis* *capillaceis* *re-*
~~cept.~~ *Will. Musc. Scv.* 1. 73. *f.* 40.

THE late Mr. Ehrhart of Hannover, one of the most industrious and correct botanists, and an ardent pupil of Linnæus, first separated this genus from *Juncuracum*, and removed it, with unquestionable propriety, to the true mosses. He was one of the first who understood the real genera of this tribe;





ANDRÆA Rothii.

Black Mountain Andræa.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, of four valves, whose points adhere to the lid. ~~Byssus~~ none.

SPEC. CHAR. Leaves ~~lanceolate~~, beveled, sickle-shaped, with a midrib, leaning one way. Sheath-scales without a rib.

SYN. *Andræa Rothii.* Mohr. *Crypt. Germ.* 385. t. 11. f. 7—9. *Hooker's Mss.*

A. rupestris. Sm. *Fl. Brit.* 1178. *Turn. Musc. Hit.* 14.

Lichenastrum alpinum nigricans, foliis capillaceis reflexis. *Dill. Musc.* 507. t. 73, f. 40,

OUR friend Mr. W. Hooker has enabled us to correct an error into which we had fallen concerning *A. rupestris*, t. 1877,

~~concerning the name in this mistake. The present plant often~~

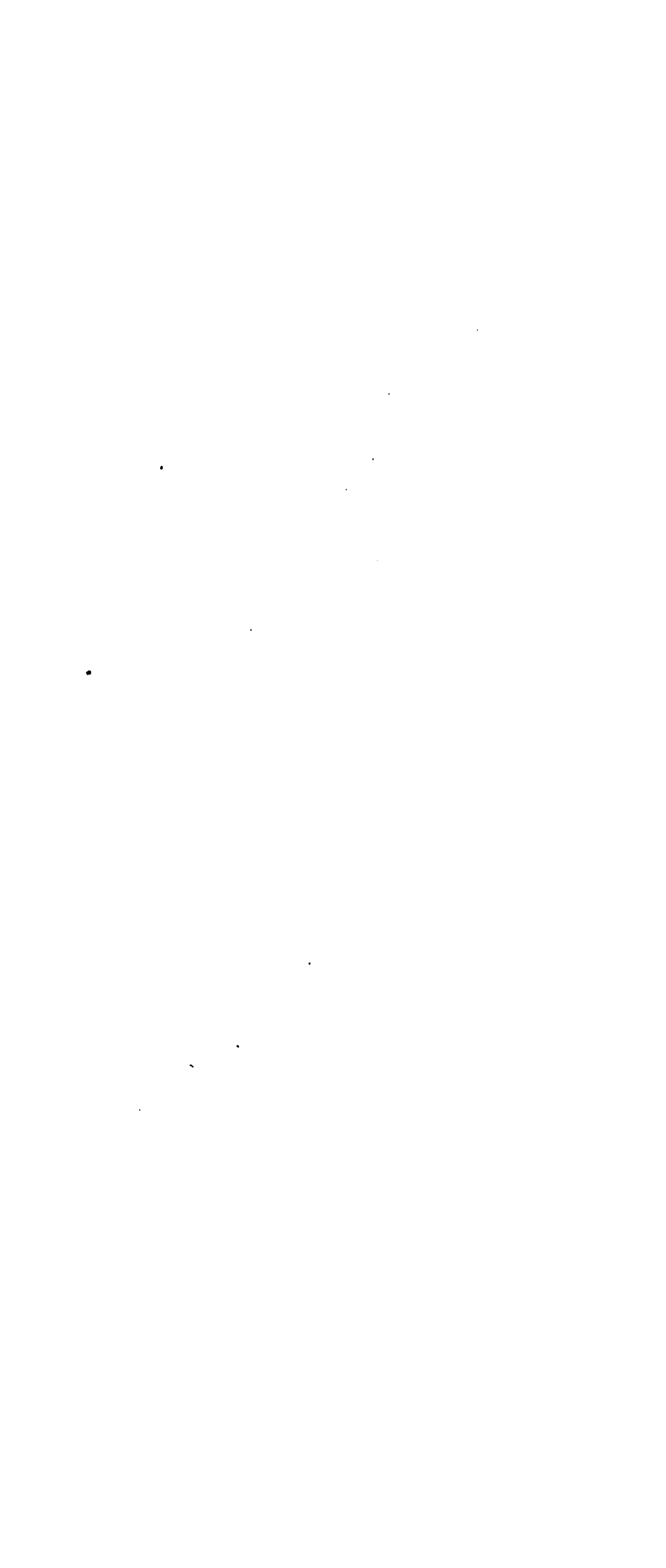


2062.



June 1, 1900 published by J. H. Lawrence, London.





[1878]

ANDREA alpina.
Cusulate Alpine Andrea.

CRYPTOGAMIA Musci.

GEN. CHAR. *Cilia* very short. *Fringe* simple, of 4 imbricated teeth, cohering at their tips, and bearing the *fil* and *seta*.

SPEC. CHAR. *Leaves* ovate, concave, imbricated every *teeth*.

SYN. *Andrea alpina*. Sm. *Fl. Brit.* 1179.

Andrea alpina. Hedw. *Sp. Musc.* 49.

A. rivularis. Hedw. *Sp. Musc.* 47. t. 7. f. 2?

A. nemoralis. Eick. *Crypt.* 67. *Beitr.* v. 1. 180. and 192.

Jungermannia alpina. Linn. *Sp. Pl.* 1601. *Huds.* 517.

W. L. 882. *H. L.* 251. *Lichtf.* 787. *Dicks. H.*

Syn. Musc. 5. 93.

Lichetiastrum alpinum atro-rubens var., calycibus squamatis. *D. L. Musc.* 306. t. 73. f. 39.

THIS is found like the last in the crevices of Alpine rocks. It agrees with that in size and habit, but is more invariably of a very dark brown colour approaching to black. It is also essentially distinguished by the leaves being concave, not



Tab. 1. 1860. Published by the Society of London.

[2334]

A N D R Æ A nivalis.

Tall Slender Andraea.

CRYPTOGAMIA Musci.


GEN. CHAR. Caps. oblong, of four valves, whose
margins adhere to the lid. Fringe none.

SPEC. CHAR. Stem branched. Leaves loosely imbricated, lanceolate, single-ribbed, curved toward
one side. Sheath-scales similar to the leaves.

SEX. *Andraea nivalis.* *Hooker Tr. of Linn. Soc.* t. 10.
PL. t. 10. f. 4.

COMMUNICATED by Mr. W. Borrer, who with Mr.
Finlay discovered this new *Andraea* upon rocks on the summit
of Ben Nevis, or Nevis, at the east end. It is perennial, pro-
ducing fruit in the summer.

The present species greatly exceeds all previously known in
its height, which is three inches, or more. The stems form





[1020]

TETRAPHIS pellucida.

Four-toothed Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* oblong. *Fringe* simple, of 4 pyramidal, upright, separate teeth.

SPEC. CHAR.

SYN. *Tetraphis pellucida*. *Hedw. Sp. Musc.* 45. t. 7. f. 1. *Swartz. Musc. Suec.* 21. *Sibth.* 275.

Mnium pellucidum. *Linn. Sp. Pl.* 1574. *Huds.* 472. *Wick.* 799. *Hull.* 249. *Relb.* 398.

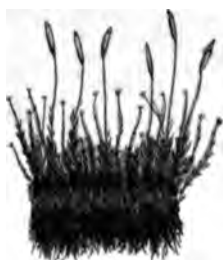
M. serpilli foliis tenuibus pellucidis. *Dill. Musc.* 232. t. 31. f. 2.

M. minus non ramosum, angustioribus et pellucidis foliis. *Dill. in Raii Syn.* 78.

Bryum pellucidum. *Abbot.* 237.

ANATHE of wet shady places at the roots of trees, for specimens of which we are obliged to Mr. Abbot. It flowers early in the spring, ripening its capsules in April or May.

Leaves annual, tufted, shaggy with black or brown matted hairs. Stems simple, erect, clothed with alternate, sessile, ovate or lanceolate, entire, pellucid, single-ribbed, beardless leaves, various in breadth, the uppermost and lowermost gradually



GRIMMIA Browniana.
Browniana Grimmeria.

~~GRIMMIA~~ *Macr.*

GEN. CHAR. *Frond* simple, of 16 teeth, broadest at
 their base. *Flowers* terminal. *Feil* cylindrical.

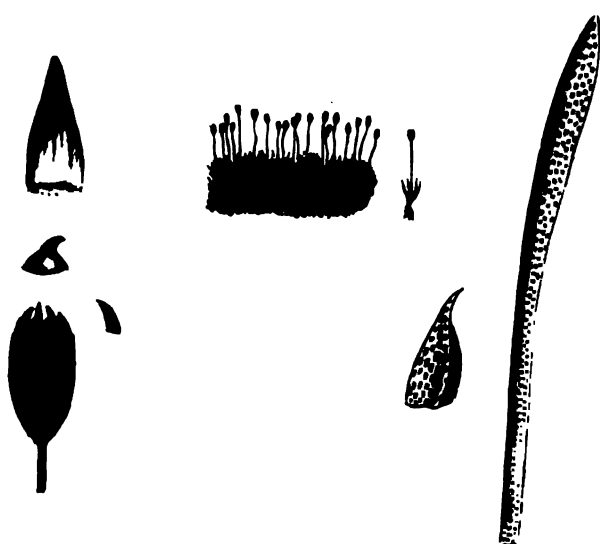
SPEC. CHAR. *Radical* leaves linear, flat; floral ones
 ovate, concave, all armed. Capsule elliptical, erect,
 sessile. *Spore* none.

FIG. *Brown Brownianum.* *Dicks. Crypt. fasc. 4. 7.*
 2 1/2, 1 1/2.

Ordnianum Brownianum. *Sm. Fl. Brit. 1269.*

REMARKS. It is hard to detect every error of which I am
 conscious. I take the earliest opportunity afforded me by
 numerous perfect specimens of this moss, gathered by Mr.
 W. Brown in some-same rocks at Lord Grantley's lakes
 near Ripon, to remove it from *Certhioides* to *Grimmia*, to

which its position in some respects with the species in the



B R Y U M extincorium.

*Extinguisher Bryum.**CRYPTOGAMIA Musci.*

GEN. CHAR. Caps. with a lid. Veil smooth. Fruit-stalk from a terminal tubercle.

SPEC. CHAR. Capsule cylindrical, entirely covered by the bell-shaped beaked veil. Leaves lanceolate, with a strong rib, entire.

SYN. *Bryum extincorium.* Linn. *Sp. Pl.* 1581. *Huds.* 475. *With.* 816. *Relh.* 402. *Dicks.* *H. Sicc. fasc.* S. 18. *Abbot* 239.

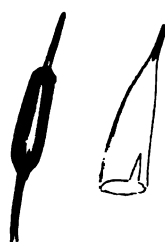
B. erectis capitulis, calyptrâ laxâ conicâ, foliis Serpilli pellucidis angustioribus. *Raii Syn.* 92.

B. calyptrâ extincorii figurâ minus. *Dill. Musc.* 349. *t.* 45. *f.* 8.

Encalypta vulgaris. *Sibth.* 277.

FOUND under the shade of rocks or walls in a dry sandy soil in many different places, perfecting its capsules in March and April. Mr. Toesdale, F. L. S. communicated it to us.

Root fibrous. Plants growing in tufts, generally simple and short with a few thick set, lanceolate, entire leaves.



Printed and Published by J. Sturges, London

ENCALYPTA ciliata.

Fringed Extinguisher-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical. *Fringe* of 16 linear upright teeth. *Veil* campanulate, inflated, wide.

SPEC. CHAR. *Veil* toothed at the margin. Stem branched. Leaves lanceolate.

SYN. *Encalypta ciliata*. *Hedw. Sp. Musc.* 61. *Sm. Fl. Brit.* 1181. *Turn. Musc. Hibern.* 18.

Leersia ciliata. *Hedw. Crypt. v. 1.* 49. *t.* 19.

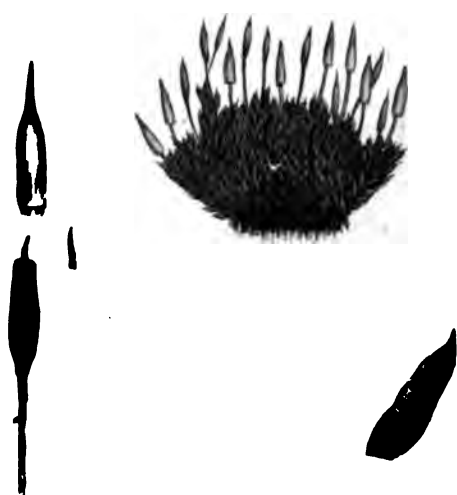
Bryum extingtorium β. *Linn. Sp. Pl.* 1581. *Huds.* 476. *With.* 817. *Hull.* 258. *Lightf.* 719.

B. calyptrâ extingtorii figurâ, majus et ramosum. *Dill. Musc.* 350. *t.* 45. *f.* 9.

A NATIVE of rocky mountainous places, specimens of



2418



Andropogon furcata L.

[1419]

ENCALYPTA alpina.

*Alpine Extinguisher-moss.**CRYPTOGAMIA Musci.*

GEN. CHAR. *Caps.* cylindrical. *Fringe* of 16 linear upright teeth. *Veil* campanulate, inflated, wide.

SPEC. CHAR. *Veil* roughish at the margin. Stem branched. Lid as long as the capsule. Leaves ovato-lanceolate, acute; the uppermost hair-pointed.

GATHERED on rocks about the very summit of Ben Lawers by Mr. G. Don in October 1804. We have never seen it before, nor can we meet with any description answerable to it.

The whole plant is smaller than that in our last plate. Stems branched, forming tufts scarcely an inch high. Leaves dark-green with a red rib, lanceolate inclining to ovate, entire, pointed; the uppermost tipped each with a longish hair in



Plate 105. Published by J. W. Gower & Co. London

1

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[8.1]

ENCALYPTA streptocarpa,
Spiral-fruited Extinguisher-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. Caps. cylindrical. Fringe of 16 linear upright teeth. Veil campanulate, inflated, wide.

SPEC. CHAR. Veil contracted and jagged at the margin. Stem branched. Leaves oblong. Capsule spirally furrowed.

SYN. Encalypta streptocarpa. Hedw. Sp. Musc. 62, t. 10, f. 10—15. Sm. Fl. Brit. 1182.

Bryum ciliare. Dicks. Crypt. fasc. 4. 15; exclusive of the synonyms.

B. n. 1828. Hall. Hist. v. 3. 48. t. 45. f. 3.

Hypnum saxatile erectum, ramulis teretibus, foliis subrotundis saturatè viridibus. Dill. Musc. 335. t. 43. f. 71.

FOUND by Mr. Dickson on the mountains of Scotland, Specimens from himself, one of which is the tallest in our plate, the other being from Switzerland, have enabled us to determine his plant; while an investigation of the herbarium of Dillenius has discovered the true synonym of that author, who has heretofore been erroneously quoted, and who never saw the fruit of this curious moss.

This is much larger than any other of its genus. The stems, which grow in tufts, vary in height from 1 to 2 inches or more, and are mostly branched; they are entirely clothed with dark-green, oblong, entire, obtuse and rounded leaves, imbricated every way, incurved and twisted when dry, each furnished with a strong coloured mid-rib. Fruit-stalks at first terminal, soon becoming lateral, solitary, nearly erect, strong, purplish, naked at the base. Capsule erect, cylindrical, a little swelling at the lower part, brown, very neatly and curiously furrowed in a spiral manner, an unique instance of the kind, as far as we know, in mosses. Lid not so long as the capsule, straight, bluntish, tawny, red at the bottom. Veil large, cylindrical, smooth, shining, pointed, jagged, and somewhat contracted, at the base. Fringe red, straight, deciduous.



June 1, 1908. Published by J. S. Lawrence, London

卷之四



ENCALYPTA Daviesii.

Least Extinguisher-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical. *Fringe* of 16 linear upright teeth. *Veil* campanulate, inflated, wide.

SPEC. CHAR. *Veil* furrowed, torn in the margin. *Stem* branched. *Leaves* awl-shaped.

SYN. *Encalypta Daviesii.* *Sm. Fl. Brit.* 1183.

Bryum Daviesii. *Dicks. Crypt. fasc. 3. t. 7. f. 6.*
With. 835. *Hull.* 264.

FOREIGN botanists have not yet noticed this moss, the specific name of which was given by Mr. Dickson in honour of its original discoverer the Rev. Hugh Davies, who found it in Anglesea. Mr. R. Brown, now on a botanical expedition to New Holland, favoured us with specimens from the North of Ireland, having observed it on the rocks at Fairhead, and particularly on the fallen columns of the Giant's Causeway, growing in great abundance. It is perennial, but we are not informed of the precise time of its fructification.

The stems are branched, leafy, and grow in dense tufts half an inch or somewhat more in height. Leaves crowded, awl-shaped, keeled, entire, dark-green, curled inward by drying. Stalks terminal, erect, solitary, short, tawny, sheathed at the base. Capsule cylindrical inclining to ovate, short and abrupt. Lid convex, with a tapering straight point. Fringe short, inclining inwards. Veil yellow, shining, furrowed lengthwise, tipped with brown, and at length torn at the base.

It is not without great diffidence that we refer this plant to *Encalypta* rather than to *Grimmia*; but the linear teeth, and especially the inflated veil, have determined us. See the most common species of this genus in *vol. 8. t. 558.*

1981



March 1, 1981. Published by the University of London.



J. 122. 2000. 12. 12.

